18/F

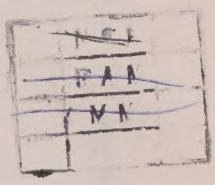
REPORT

OF THE

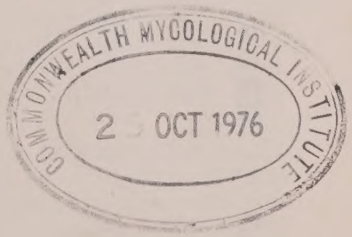
DIRECTOR-GENERAL OF FORESTS

FOR THE YEAR ENDED

31 MARCH 1976



Presented to the House of Representatives
Pursuant to Section 68 of the Forests Act 1949



BY AUTHORITY:
A. R. SHEARER, GOVERNMENT PRINTER, WELLINGTON, NEW ZEALAND—1976
Price 45c

THE DIRECTOR-GENERAL OF FORESTS
to the Hon. V. S. Young, Minister of Forests
Wellington, 16 July 1976.

SIR,

I have the honour to present, pursuant to section 68 of the Forests Act 1949, the annual report of the operations of the New Zealand Forest Service for the year ended 31 March 1976.

I have, etc.,
M. J. CONWAY, Director-General of Forests.

Hon. V. S. YOUNG,
Minister of Forests,
Wellington.

CONTENTS

PAGE

FOREST POLICY AND HIGHLIGHTS

Forestry Development Conference 1974–75 5
Proposed Forestry Development 5
Indigenous Forest Policy 6
Accounting Reform 8
Price Control and Stumpages 9
Major Forest Industry Developments 9
Hazards of Forestry in Canterbury 10
State Wood Production and Sales 11
Commercial Division 11

PRODUCTION FORESTRY

Management 12
Silvicultural Operations in State Exotic Forests 13
Forestry Extension 13
Fire Control 14

ENVIRONMENTAL FORESTRY

Forest Parks, Recreation Areas, Dedicated Areas 15
Noxious Animals 16

COMMERCIAL DIVISION OPERATIONS

Profit and Appropriations 18
Production 18
Stumpages 18

PRODUCTION, CONSUMPTION, AND TRADE

Total Wood Production 19
Sawn Timber Production 19
Pulp and Paper 19
Panel Products 19
External Trade 19

RESEARCH AND DEVELOPMENT

Research 21
Wood Use 21
Timber Preservation Authority 22
Engineering Developments 22

OTHER ACTIVITIES

Development Assistance 24
Overseas Visits 25
Training 25

Inset 1

PAGE

APPENDICES

1. Area of State Forest Land 27
2. New Area Planted in State Exotic Forests 27
3. Establishment and Clear Felling in State Exotic Forests .. 28
4. Pruning and Thinning in State Exotic Forests 32
5. State Forest Parks and Recreation Areas 1975–76 .. 33
6. Total Wood Removals from State Forests 34
7. Total Smallwood Removals from State Forests 35
8. Total Wood Removals from State Indigenous Forests—By Method of Sale 36
9. Total Wood Removals from State Exotic Forests—By Method of Sale 37
10. Removals of Exotic Roundwood from State Forests—Thinnings and Clear Fellings 38
11. Forest Service Sawmill Operations—Production and Sales 39
12. Forest Produce Treated 40
13. Employment and Training 41
14. Commercial Division Accounts 43
15. Forest Service Accounts 48
16. Production of Rough Sawn Timber 53
17. Production of Pulp and Paper.. 55
18. Production of Forest Products and Roundwood Removed .. 55
19. External Trade in Forest Products 56

FOREST POLICY AND HIGHLIGHTS

FORESTRY DEVELOPMENT CONFERENCE 1974–75

The second Forestry Development Conference concluded in May 1975 with consideration given to reports and recommendations from working parties set up in November 1974. Recommendations accepted at the conference were subsequently reviewed by the Forestry Development Council, priorities accorded for action, and means of implementation determined. The major themes of the conference were forestry development over the next decade and indigenous forest policy, and submissions have been made to the Government on both of these.

PROPOSED FORESTRY DEVELOPMENT

In view of the need to diversify New Zealand's sources of export income, the Forestry Development Council recommended to the Government that the forestry sector should adopt the long-term aim of greatly increasing the export earnings obtained from wood products and in so doing should aim at attaining within the next 30 years a total wood supply from exotic forest sources of 35 million cubic metres annually in roundwood equivalent. It envisaged 70 percent of this wood being available for export in one form or another, but mainly as fully processed products.

Future levels of export earnings for forest products are highly dependent on decisions taken now on national planting policy, and the council recommended an average annual rate of new planting of 55 000 ha over the next 5 years only (1976–80 inclusive) with a review of achievement in 1979. Full recognition was given to the many constraints which would undoubtedly apply, especially the availability of land. It pointed out that the current exotic forest area was only 2 percent of the total area of New Zealand, compared with 73 percent non-forested, 24 percent in indigenous forest, and 1 percent water. Using this broadest national level of land classification the proposed planting rate would increase the exotic forest proportion in 5 years' time to 3.4 percent of the total area. Nearly 2.5 million ha is presently classified as "scrub land" and the council expected that this category of land would be the source of most of the land needed for an expanded afforestation programme. However, considerations of suitable location and the need to provide an adequate concentration of forest resources could well mean that in certain regions some new planting would be necessary on land suitable for agricultural development or could involve the conversion of some logged-over indigenous forest land. The reconciliation of exotic forest policy with policies for indigenous forest management and for agriculture may thus be an issue regionally, as is already evident from proposals for large-scale afforestation in the King Country.

The council also recognised that successful implementation of the proposed increase in planting depends heavily on availability of manpower and finance. The achievement of an average annual programme of 55 000 ha was considered practical only within the limits set by the three separate constraints of land, manpower, and finance and in accord with the assumptions built in by the conference working

parties. Some changes have occurred since these original planning assumptions were made and no doubt there will be others in the future. It would be unrealistic to ignore the distinct possibility that the recommended rate of new planting may fall short in performance due to short-term changes in the availability of manpower and finance. It is pertinent to point out here that the ability of the existing forest industry to supply the domestic market and to contribute substantially to overseas earnings is based largely on the concentrated plantings of the late 1920s and early 1930s, when surplus manpower was gainfully employed. When the economy is buoyant the forest sector—state and private—appears to be able to obtain its necessary share of labour and finance; in times of recession the deployment of manpower through winter-employment schemes, especially in the state sector, tends to maintain or increase the level of planting.

Another constraint raised by those invloved with the conference is the likely surge in demand for energy, water, labour, and capital when the wood supply created by the recommended planting rate is available for processing 25 to 30 years hence. The council recognises that there will be increased demands on these resources but believes the flexibility offered by marketing and processing options, together with the technological advances that will undoubtedly occur in manufacturing industries, will give forestry a competitive edge over many other industries.

The Forest Service attaches more importance than do its industrial counterparts to the benefits to be obtained from maintaining a regular lucrative log export trade, not only for the periods between local industrial expansions but in its own right, being far less demanding in terms of labour, capital, energy, and water and subject to fewer environmental considerations. Most world-wide projections point to long-term shortages of raw materials as well as of manufactured wood products, and the marketing options referred to above should be kept open particularly for the many private forest growers, whose expectations of profit are largely based on prices for export logs rather than on the stumpages paid locally.

The Government is still considering the Forestry Development Council's recommendations for an increased planting rate inasmuch as its attainment is markedly affected by the contribution which would need to be forthcoming from the Forest Service at a time when expenditure in the public sector needs to be contained.

INDIGENOUS FOREST POLICY

A major achievement of the 1974–75 Forestry Development Conference was its review of indigenous forest policy, particularly as it related to State forests. The revised policy put forward by the Forest Service at the November 1974 session was comprehensively examined by a widely representative working party. With a few modifications recommended by this working party it was adopted at the conference, endorsed by the council, and referred to the Government for approval, which was obtained in October 1975.

In the past much of New Zealand's native forest was removed to make way for farm development and to provide timber for domestic needs and overseas markets. Indigenous sawn timber production has

since dropped to approximately half what it was 50 years ago, and exports have declined drastically over the same period. In order to maintain the indigenous sawmilling industry, and thereby meet the demand for finishing and building grades of timber, the practice over the last quarter century throughout much of the country has been to extract all the merchantable trees when logging an area. Where they comprised the bulk of the crop this resulted in what is termed clear felling. In mixed forests of hardwoods and softwoods it was the latter which by and large were removed, and while a forest cover of sorts remained it bore little or no resemblance to the original stand.

In certain areas felling of forest proceeded in advance of the immediate need of the land it occupied for farm development or to meet a desirable level of reforestation with exotic species. In recent years these long-accepted practices have been questioned and the revised forest policy was advanced in recognition of the desire for changes. Its key elements are:

- The decision to clear fell should not be made before the need is clearly evident. The need to clear fell should be considered as evident only when other land in the region already devoid of indigenous forest is either unavailable or unsuitable for further development to meet the Government's social and economic goals regionally and nationally.
- Indigenous forests should be cleared only after a study of the social, environmental, and economic factors has demonstrated that national welfare would be enhanced by doing so.
- The decision on whether timber production is of greater importance than other values conflicting with such production would thus be deferred until the commitment one way or the other is necessary.
- Logging of indigenous forests is thus not precluded but, as a corollary, where there is no immediate need to use the land for other productive purposes logging should be conducted in such a way that leaves open the options of maintaining an indigenous forest structure with a wide range of values or of clearing for other uses at some unspecified time. A constraint on production in such circumstances would therefore be that wood cannot be harvested unless a forest structure is retained or restored after logging.

Implementation of the policy is well advanced in many areas. For example, in the North Island such forests as Whirinaki, Tihoi, and part of Pureora are currently being managed using some form of selective logging in place of the former method of clear felling followed by planting with exotic species.

However, one of the effects of introducing the policy has been a restriction on available timber resources, which has necessitated careful re-scheduling of resources. In areas where a policy of partial felling coincides with the need or desire to set aside substantial biological reserves, as in the King Country and north Westland, it will not be possible for the State to meet existing long-term commitments entered into many years ago. The Indigenous Forest Timber Advisory Committee, in considering situations where regional resources are insufficient to meet present commitments, has identified possible courses of action such as the transfer of surpluses from adjacent regions, cessation of short-term sales, substitution where practicable of exotic species, and

variation or termination of contracts with appropriate compensation. In the last resort the question of compensation may well have to be faced up to as the price the community at large must pay in achieving its objective of retaining other indigenous forest values.

In introducing the revised policy the Forest Service stressed that it would be unlikely to be practicable without also revising the procedures for marketing indigenous timbers and without a change in consumer preference and demand. One of the steps taken by the Indigenous Forest Timber Advisory Committee in this context has been to recommend the Government to lift price control on indigenous timber. If approved, this would provide the incentive for channelling a higher proportion of wood into uses where its intrinsic worth would command a higher premium that at present. A major review of the pricing structure for indigenous wood would logically go hand in hand with diminishing supply.

In a report of this nature it is not possible to comment on the many other recommendations adopted at the 1974–75 Forestry Development Conference in respect of recreation and protection forest policies. Worthy of mention, however, is the recommendation to the Government from the Forestry Development Council that the Forests Act 1949 should be amended to give greater emphasis to the balanced use of State forest land and to the protection of indigenous flora and fauna. Also sought was the recognition of recreational use of State forest land as a prime object of management in certain circumstances. The Government has accepted this recommendation and approved the drafting of appropriate legislation.

ACCOUNTING REFORM

As a first step in a continuing programme of accounting reform the Forest Service annual accounts have been reconstructed this year. The present aim is to indicate, by the publication of an income and expenditure account, the annual surplus or deficit in respect of forests considered to be "in production", as distinct from those still under development and those where the operating expenses are more correctly a charge to general government administration.

The accounts show a sizable deficit for the year ended 31 December 1975 in the exotic forest production group and only a modest surplus in the indigenous forest production group. These results, though disappointing, are not unexpected because substantial cost increases have had to be absorbed at a time when stumpage rates were frozen. This coincided with a marked fall-off in log exports.

It must be emphasised that in classifying exotic forests into production and developing units some arbitrary decisions had to be made. Nearly all of the forests regarded as "in production" are still expanding their productive areas to some degree and many contain first-crop, relatively slow-growing species that have not yet reached maturity. In both these forestry situations expenditure has been charged against revenue whereas strict accounting principles would allow it to be capitalised. It must also be recognised that, in the absence of a big increase in stumpages to meet the mounting cost of complying with environmental requirements, there is little likelihood of future surpluses in the indigenous production forests' accounts.

PRICE CONTROL AND STUMPAGES

In 1919 the then Minister of Forests, Sir Francis Bell, held that the ruling prices for export timber had resulted in the domestic market being called on to pay what he considered unreasonably high prices. He accordingly insisted that local prices should be fixed on a more reasonable basis and that in so doing export prices should be disregarded. The idea of providing the New Zealand public with wood that is cheap by international standards has continued to attract the sympathy of successive Governments, notwithstanding strong recommendations over the years from the Forest Service to the contrary. The department's view has been, and is, that the artificial constraint of control of sawn timber prices is harmful because it acquiesces in the use of indigenous timber being less discriminatory than is desirable and reduces profitability in establishing, managing, and utilising exotic forests.

In 1965 the Government decontrolled prices on timber, plywood, and veneer, but control was reimposed in 1968, and in 1973 Forest Service stumpages were "frozen" until October 1975, thus depressing revenue. Though the way is now open for higher stumpages to be charged, the retention of price control of both indigenous and exotic sawn timber restricts the ability of the sawmiller to pay a higher price for his raw material.

There is no doubt that compared with other countries wood is being sold cheaply in New Zealand, and in effect the end-user, i.e., the public, is receiving a form of subsidy.

In making long-term sales from exotic forests the Forest Service now incorporates regular revaluations to ensure that the stumpages received for the wood it grows keep pace with changing money values. Prices are reviewed annually to take account of movements in the consumer price index, with periodic reviews at 5-yearly intervals.

However, major sales to industry many years ago did not provide for such regular adjustments with the result that in these instances the current costs of growing the wood are not being recovered by the revenue received from stumpages set in the past. This is a further reason for the deficit in the operating account this year in the exotic forest production group.

MAJOR FOREST INDUSTRY DEVELOPMENTS

The Tasman Pulp and Paper Company's third newsprint machine, which is producing solely for export, came into operation towards the end of 1975 and marked the completion of a pulp and newsprint expansion programme costing more than $100 million. Carter Oji Kokusaku Pan Pacific Ltd. completed the expansion of their refiner groundwood pulpmill at Whirinaki, with their total pulp production being exported to Japan.

Two other new plants drawing on State wood resources are expected to be well into production by mid 1976. One is N.Z. Forest Products' plywood plant at Kinleith, using peeler logs from Kaingaroa State Forest and its own forests, and the other is Canterbury Timber Products' medium-density fibreboard plant at Rangiora, using slabwood from local sawmillers with cutting rights in State forests and also small roundwood from these forests.

As a result of the advertising of a long-term sale of an annual volume of 45 000 m^3 of mixed softwood species from Karioi Forest, a joint venture proposal involving New Zealand and Korean companies for the construction of a thermo-mechanical pulpmill near Karioi is currently under consideration. The proposal is to use the wood offered plus additional sawmill residues for the annual production of 58 000 tonnes of pulp. An environmental impact report in respect of the proposed mill has been called for.

Proposals received on 1 April 1975 for the use of 785 000 m^3 of pulpwood and 63 000 m^3 of sawlogs annually from the West Coast beech project area were not considered by the Government to have explored the full range of industrial possibilities. For these reasons the Government agreed to a study being undertaken by overseas consultants to consider the combining of some of the wood resources from the West Coast with those of Nelson and Marlborough for a major wood-processing industry in the northern part of the South Island, and in addition to assess the prospects for smaller scale industry on the West Coast. The consultants' report is expected before the end of 1976. A proposal for the pulping of 170 000 m^3 annually, mainly of beech species from State forests in Southland, together with other wood if available, is being examined separately.

The Commercial Division of the Forest Service has been closely associated with a private company in investigating the utilisation of current wood residues in Otago and Southland. A company has been formed with rights to export wood chips until 1980, after which they may be required for processing by a local industry.

HAZARDS OF FORESTRY IN CANTERBURY

On 1 August 1975 north-west winds gusting up to 170 km per hour (92 knots) severely damaged exotic forests in Canterbury. About 11 000 ha, or one-quarter, of the forest area was windthrown. The volume involved was some 3 million m^3, evenly divided between State forests and other ownerships, but it is expected that most of the wood of sawlog quality will be recovered.

Logging began as soon as the extent of the storm damage had been assessed, and a company has been formed, with Government financial support, to acquire and stockpile sawn timber from the damaged forests. In this way some timber will be available for disposal after salvage is completed in the forest. However, as local sawmills could not saw all the wood available before deterioration sets in, the Forest Service has negotiated and co-ordinated the export of sawlogs to Japan, China, and Korea from State, local authority, and private forests.

In the knowledge from overseas that freshly felled logs kept at a high moisture content will resist attack by decay-producing fungi and wood borers, the Forest Service is building up a stockpile of about 30 000 m^3 of sawlogs under a water sprinkler system. The dual purpose of this is to gather information on the practicability and economics of long-term storage of roundwood under water and to provide a small reserve of sawlogs for the local market two or more years hence.

On 22 March 1976 a breakaway fire in Hanmer State Forest, fanned by strong north-westerly winds, swept through over 500 ha of planted forest of Corsican, ponderosa, and radiata pines. Damage varied from complete defoliation to slight scorching. It is expected that most of the

damaged forest will be sold before deterioration sets in. A commission of inquiry is to be held in respect of this fire, its prime aim being to make recommendations concerning the safeguards adopted in controlled burns used to establish or re-establish exotic State forests.

Despite the obvious risks to exotic forests in Canterbury from wind and fire there is reasonable evidence that, provided they are recognised in the management of forests, it should be possible for the region to continue to grow a large part of its wood requirements. Deep ripping of soils to facilitate root penetration, short crop rotation, dispersal of forests, and variation in species are examples of measures which might be taken to lessen these risks.

STATE WOOD PRODUCTION AND SALES

Roundwood production from State forests during the year ended 31 March 1976 totalled 4 409 000 m^3, 0.3 percent higher than in the previous year. Production from exotic forests rose by 90 000 m^3 but that from indigenous forests fell by 78 000 m^3.

Revenue from the sale of State forest wood for the year ended 31 December 1975 was $23.8 million compared with $26.6 million in 1974. A marked reduction in both the volume of exotic log exports and in prices (f.o.b.) for this material was largely responsible for the fall in revenue.

COMMERCIAL DIVISION

The downturn in domestic and export demand towards the end of 1974 continued into 1975. Its effect is reflected in the trading results of Waipa and Conical Hill sawmills. Conical Hill, which operates in a region now having very few timber merchants uncommitted by ownership to a prime producer, was most seriously affected. It was only recent investments in mill site retailing direct to end users that enabled this mill to continue at a production level capable of meeting costs and maintaining the job opportunities it has always generated in the area. However, Waipa sawmill's productive capacity is such that mill site retailing will never reach the level required to avoid severe losses and lack of employment opportunities when it finds itself faced with insufficient independent merchants for large-scale wholesale trading.

Investment programmes carried out in the late 1960s are now enabling both mills to supply a comprehensive range of processed and remanufactured solid wood products to meet the needs of a wide range of end users. This will undoubtedly aid the mills' trading in future. The servicing of markets both in New Zealand and overseas will continue to require a high level of manufacturing and processing efficiency and an ability to meet changes in consumer requirements and trends in timber use.

Waipa sawmill employs members of the Timber Workers' Union under a regional agreement. Whereas some of the other producers in the Bay of Plenty pay production bonuses to all employees, at Waipa production bonuses are at present confined to tradesmen. It has been agreed to investigate the feasibility of production bonuses applying to other employees.

PRODUCTION FORESTRY

MANAGEMENT

Progress in afforestation—The area of new planting by the State and private sector in 1975 is provisionally estimated to be 44 000 ha, about 500 ha less than in the previous year. The reduction reflects a fall-off in the private sector. Until the economy improves, any substantial reversal of this trend is unlikely. New planting by the Forest Service totalled 21 665 ha, compared with 21 029 ha in 1974.

Working plans—Three working plans were approved by the Minister of Forests during the year for: Parengarenga "3G" in Northland (512 ha of Maori land within Aupouri Forest leased for sand stabilisation and exotic forest production); North-west Nelson State Forest Park, covering nine separate State forests with an area of 358 841 ha; and Craigieburn State Forest Park, in Canterbury, of 4452 ha of indigenous protection forest. Preparation is well advanced on several other regional management and State forest park working plans. There is growing public interest in such planning.

Acquisition of land—The major acquisitions during the year were for additions to Omahuta, Wharerata, and Whangapoua Forests and an 8500 ha property near Lawrence in Otago which will be the basis of an important new forest. A further 97 ha at Eyreton was acquired for the Rangiora Nursery complex.

Forest diseases—Conditions favourable to the development of pine needle blight (*Dothistroma pini*) during the summer of 1974–75 necessitated a control-spraying programme of over 62 000 ha (32 000 ha of State forest) during the period November 1975 to February 1976. Co-ordination of State and private programmes ensured an effective spraying programme. The weather last summer again favoured development of the blight and it is expected that a control programme of similar magnitude will be needed next year.

Control of contorta pine at Waiouru—Eradication of *Pinus contorta* naturally established on the Waiouru military reserve and nearby lands began 2 years ago. Contorta pine, because of its aggressive nature, is increasingly recognised as an undesirable species to have adjacent to Tongariro National Park and Kaimanawa Forest Park. It will be removed progressively from Karioi State Forest, one of the sources of spread.

In a major operation to clear contorta pine from land west of the Desert Road and on the eastern edges of Karioi Forest, the Forest Service and the Rangitikei-Wanganui Catchment Board (as agents of the Ministry of Defence) combined to roller crush and control burn stands over approximately 1400 ha. The operation was successful, but follow-up action will be needed to ensure complete control within the next few years. About 400 ha cleared at Karioi Forest will be restocked with radiata pine during the coming winter.

Multiple use of forests—Suggested waste disposal developments in Auckland and Northland would widen the scope of multiple use of exotic forests. In Auckland the proposal is to dispose of pulverised refuse as landfill in Riverhead Forest; at Paihia one solution mooted for sewage disposal is to distribute treated effluent by spray irrigation in Waitangi Forest.

SILVICULTURAL OPERATIONS IN STATE EXOTIC FORESTS

The following silvicultural work was carried out in State exotic forests in 1975–76 (provisional figures):

	Hectares
New planting (including leasehold land)	21 665
Restocking of logged forest	7 502
Pruning (over 95 percent in radiata pine)	23 956
Thinning	24 105
Clear felling	6 498

Forest Service nurseries have raised about 78 million trees for planting in the coming winter.

FORESTRY EXTENSION

As a result of the downturn in the economy, the rate of new planting under the Forestry Encouragement Grants Scheme fell for the first time since the scheme was introduced in 1969. The area established, 6764 ha (compared with 7915 ha the previous year), was only 68 percent of the Government-approved maximum.

Shortage of investment finance for landowners, unwillingness to borrow, and lack of loan money at acceptable interest rates were the main causes of the downturn. Inflation has also reduced the value of the maximum grant of $300 per hectare to 53 percent of its value when the scheme was started. The main effect of this decreasing value is to discourage woodlot growers from carrying out tending, to the detriment eventually of the quality of the wood that will be harvested.

Local authorities establishing forests under the Forestry Encouragement Loan Scheme are encountering difficulty in financing aspects that the scheme does not cover, particularly roading and fire insurance.

Reports from forest extension officers throughout the country indicate that a growing number of hill country sheep farmers are reaching the conclusion that it has become uneconomic to maintain pasture on marginal country, but they cannot alter the land use to forestry through lack of finance.

The 1974–75 Forestry Development Conference paid particular attention to private forestry in general and the small grower in particular. There was general acceptance of the potential for forestry expansion on farm land by adopting a more closely integrated pattern of land use rather than blanket planting of large blocks. Recommendations relating to forest insurance, forest taxation, roading, incentives, and co-operative and group management schemes were of particular importance to the small grower and have been referred to special technical committees for further study and recommendation.

The forestry correspondence course conducted by the Technical Correspondence Institute, and the 1-week residential courses in forestry run in co-operation with the Ministry of Agriculture and Fisheries, continue to attract students having a wide range of backgrounds, and show the potential there exists for the development of woodlots and small forests, provided incentives are maintained and improved.

An inter-departmental technical group is making a special land-use study of Marlborough County to assist planning by the local authority.

The methods developed by this group could well be more widely adopted.

FIRE CONTROL

Except for Otago and Southland, where drought conditions have prevailed since November 1975, abnormal rainfall during the Christmas holiday period and in February 1976 greatly reduced the usual summer fire hazard. This was particularly welcome in Canterbury, where special measures have been introduced to counteract the greatly expanded risks caused by the August blowdown. Under the low-hazard conditions, losses from the outbreaks that did occur were negligible, except for the major fire at Hanmer (see page 10).

Excellent weather in late summer assisted the completion of 18 000 ha of prescribed burning to clear land for planting. A third of the area was lit with incendiary devices dropped from a helicopter, a development which has proved well worth while from the aspects of safety and economy.

ENVIRONMENTAL FORESTRY

FOREST PARKS, RECREATION AREAS, DEDICATED AREAS

State forest parks—There are now 14 gazetted State forest parks (Ruahine, Kaimai-Mamaku, and Whakarewarewa having been added during the year). Progress has been made with boundary adjustments to facilitate the gazettal of Raukumara (Gisborne - East Cape) and Richmond Range (Nelson) forest parks. Addition of a further 18 131 ha to North-west Nelson Forest Park is imminent. Boundaries between Kaimanawa Forest Park and adjoining Ministry of Defence property are to be adjusted by exchanges of land. Ministerial approval has been given for gazettal of Raukumara Forest Park, of about 102 000 ha, but establishment of the proposed Hauhungaroa Forest Park (west of Lake Taupo) has been held up by delay in legal description. The total area of gazetted State forest parks now exceeds 980 000 ha (for details see appendix 5), with over 42 000 ha of approved additions awaiting gazettal.

Representatives of the present 13 forest park advisory committees met for the first time this year with senior Forest Service officers for discussion aimed at co-ordinating recreational management of forest parks.

Recreation areas—Recreation areas in Balmoral, Eyre, Gwavas, and Snowdon State Forests were gazetted, bringing the total to 10, totalling almost 99 000 ha (see appendix 5). A further 6698 ha will be added to Ohau Recreation Area shortly, and other recreation areas await gazettal.

Dedicated areas—Under the dedication provisions of the 1973 Forests Amendment Act six areas totalling 4258 ha have been gazetted. The largest, of 3746 ha, is the Waipoua Kauri Research and Management Area; another four, of biological, archaeological, or scientific interest, are in Woodhill Forest, near Auckland; and there is a 396 ha biological area in Coromandel State Forest Park. Many other areas are scheduled for gazettal.

Recreational and educational use of forests—An increasing population with the means and leisure to enjoy the outdoors has led to rapidly expanding demands for recreation on land administered by the Forest Service. These have been met by the creation of State forest parks and of recreation areas, now totalling 1 million ha, and by relaxation of restrictions on entry into all State-owned forests. Even wider freedom of access is under consideration.

Increasing use is being made of State forests for educational purposes. Because of this, nature trails identifying flora and other points of ecological interest are being set out. An extension of these outdoor "classrooms" has been provided by the establishment of school forest camps so that children can actually live for a time in a forest environment. An outstanding example is the Waiotapu School Forest Camp, near Rotorua, where disused single men's quarters have been transformed into a valuable educational amenity by the combined efforts of teachers, service clubs, business organisations, volunteer labour groups, and forest staff. This camp has been fully utilised by schools

since December 1974 and is booked for 12 months ahead. Experience at Waiotapu and elsewhere indicates that there will be a need for even greater Forest Service participation in outdoor education. Many school parties visit forests each year and a number of schools have their own "forests", involving more than 7000 children in practical forestry work such as planting and pruning.

Use of water in forest parks—In recent years more attention has been paid to the use of smaller rivers for hydro-electric power. A local power authority's proposal to use the Otaki River within Tararua State Forest Park was the subject of an environmental impact report and audit. A wider investigation into the use of water in the whole of the Tararua Range is now to be carried out. Generation of hydro-electricity is considered an acceptable use of State forest land, including forest parks, and accords with Forest Service policy of multiple use of forests. However, the construction and operation of generating stations inevitably modify or may even destroy natural features, and the benefits from hydro schemes, direct or indirect, need to be shown to more than compensate for any undesirable effects, especially in respect of traditional recreational opportunities.

NOXIOUS ANIMALS

Opossum control; bovine tuberculosis—Continued control of opossums in Buller, Inangahua, and Grey Counties on the West Coast has greatly reduced the level of bovine tuberculosis infection in cattle (from 12.4 percent of reactors to the Tb test in 1970 to 0.66 percent as present). The Ministry of Agriculture and Fisheries is identifying other areas where infection in cattle is persisting due to spread by opossums so that they can be subjected to intensive control. So far attention has been paid to Waimahora (Otorohanga County), part of the western bays areas of Lake Taupo, an area near National Park, Banks Peninsula, and the Hokonui Hills (Southland). Tb levels in cattle have been lowered, and opossum control will be maintained at a level that will consolidate gains already made. Opossum control, in the interests of the health of farm animals, is now a major activity in the control of noxious animals.

The spreading of bovine tuberculosis by opossums has alarmed farmers and has led to recommendations that opossums be declared a pest of national importance, with control on similar lines to that of rabbits. The Forest Service has reservations on this course of action, as it could lead to dispersal of available resources, including finance, and thus weaken control efforts in priority areas.

Thar in South Canterbury—Government policy is to control noxious animals to a level dictated by correct land use. On severely eroded land in South Canterbury noxious animals, particularly thar, will need to be reduced to very low numbers. Thar numbers have already been lowered substantially by commercial helicopter operations supplemented by Forest Service helicopter hunting to maintain pressure in areas that do not attract commercial operators. The controversy over safari hunting on Crown leasehold grazing runs has largely been solved by the controlling authority (the Land Settlement Board) declining to issue licences for this type of hunting on eroded land.

Helicopter hunting in Fiordland—Pressure by commercial helicopter game meat hunters for a diminishing number of deer has centred attention in recent years on Fiordland National Park, where only one company was authorised to carry out helicopter hunting. The park board has now made provision for other companies to operate in parts of the park as well for a trial period of 18 months with a review after a year's operations.

Rehabilitation of mountain lands—For many years concern has been expressed at the situation in the southern Ruahine Range. Ruahine State Forest Park encompasses the northern headwaters of the Manawatu River, a priority area where continued intensive noxious animal control and subsequent extensive erosion control are required to arrest soil erosion and prevent aggradation of stream beds. The Forest Service is one of the members of a newly formed subcommittee (the Ruahine Range Control Scheme Committee) of the Soil Conservation and Rivers Control Council which is to advise the council by June 1977 on the implementation and co-ordination of policy relating to management of the Ruahine Range and rivers draining from it. The scheme leader has been provided by the Forest Service.

COMMERCIAL DIVISION OPERATIONS

Detailed accounts for the year ended 31 December 1975 with explanatory notes appear in appendix 14.

PROFIT AND APPROPRIATIONS

Tax paid profit of $614,288 for the year is a drop of 61 percent on the previous year's results. The two major causes of the fall were a downturn in trading and increases in costs not fully compensated for by increased prices. Export trade was severely cut for the first 9 months of the year; however, after devaluation it improved markedly and has since remained buoyant. As well as a downturn in overall demand on the domestic market, the wholesale market available to the State mills contracted in line with the continuing trends in combined company ownership of prime production and merchanting in the industry. End-user selling from mill sites improved during the year, but because of distance from major markets it was not possible to increase these sales sufficiently to counteract the fall in export and domestic wholesale trading.

Sawn timber and processing prices are strictly controlled and the mills incurred increases in costs during the year which have not yet been fully recovered in prices. It appears that to solve the problems of contracting markets and unrealistic margins the State mills would have to follow the pattern of manufacturing diversification and merchanting integration established in other units of the industry.

Although tax paid profits were much lower this year, it has been decided, after considering the level of past years' retained profits and the current upswing in export trading, to continue with the 14 percent dividend paid in 1974. Profits will be appropriated as follows:

	$	$
Tax paid profit		614,288
Transfer to fire insurance reserve ..	34,715	
Transfer to provision for doubtful debts	6,330	
		41,045
Available for distribution		573,243
Dividend at 14 percent		433,922
Retained profits		139,321

PRODUCTION

Production of sawn timber, at 149,407 m³, was 14 percent below the previous year's. The normal capacity of the two mills is now 175 000 m³, but with the completion of the framemill reorganisation at Waipa in 1976 the capacity will rise to 198 000 m³.

STUMPAGES

Waipa paid an average stumpage of $2.76 per m³ and Conical Hill $2.23 per m³. Stumpage for individual species were not altered. However, under the escalation provision in the 5-year log-supply programme, Waipa's stumpage is subject to review as at 1 October 1975. Towards the end of the year Conical Hill reverted from stumpage sales to log-delivered sales.

PRODUCTION, CONSUMPTION, AND TRADE

Production totals for the year ended March 1976 are not available because of the date of publication of the annual report. Production figures given are for the year ended 31 March 1975, while estimates have been made where possible for the year ended 31 March 1976.

TOTAL WOOD PRODUCTION

The estimate of roundwood removed from all forests—State and private—is 8.4 million m^3, which is slightly lower than the total of 8.6 million m^3 for the previous year.

SAWN TIMBER PRODUCTION

Production of sawn timber reached 2 086 000 m^3, which was 30 000 m^3 higher than in 1973–74, and domestic consumption increased slightly. All the increase was of exotic timber, indigenous timber production declining. Details of quarterly production supplied by a sample of sawmillers indicate that production for the year ended 31 March 1976 will be lower.

PULP AND PAPER

Pulp production continues to rise. It reached 893 000 t in the year ended March 1975 and is expected to be about 940 000 t for 1976.

Paper and paperboard production increased to 547 000 t. Newsprint production dropped slightly to 208 000 t, but production of printing and writing paper and of other paper and paperboard rose slightly to 34 000 t and 304 000 t respectively. Similar levels are expected for the year ended 31 March 1976. Domestic consumption of newsprint dropped, but consumption of other paper and paperboard rose slightly.

PANEL PRODUCTS

Production of panel products dropped slightly: plywood to 27 000 m^3, fibreboard to 44 000 t, and particleboard to 118 000 m^3. Particleboard production for the year ended 31 March 1976 is expected to be slightly higher, and plywood production slightly lower. Fibreboard and plywood consumption fell slightly, while (due to increased imports) particleboard consumption continued to rise.

EXTERNAL TRADE

The most recent available statistics for trade in forest products are for the year ended June 1975.

Exports of sawn timber—The volume fell to 170 000 m^3, valued at $10.5 million, but indications are that exports are now rising again.

Exports of paper and pulp—The volume of paper and paperboard rose to 173 000 t. Newsprint exports, which had dropped in 1974, were back, at 121 000 t, to their 1973 level. The volume of other paper exported continues to rise, reaching 52 000 t in 1975. The value of paper exports rose by $10.4 million to $36 million. Pulp exports increased by 35 percent to 313 000 t and their value by $18 million to $44 million.

Most of the increased volume was of mechanical pulp, exports of which rose by 71 percent to 124 000 t.

Export of logs—Log exports halved, from 1 450 000 m^3 to 695 000 m^3, with a resultant decrease in value from $34 million to $18 million.

Imports of forest products—The volume of imports for 1975 was only very slightly higher than in 1974, but their value rose from $43 million c.d.v. (current domestic value) to $53 million. Log and sawn timber imports decreased—logs from 11 000 m^3 to 5 000 m^3 and sawn timber from 65 000 m^3 to 55 000 m^3. Pulp imports at 4 000 t were less than half those for 1974, but this drop was not reflected in the value, which was $1.2 million compared with $1.8 million in 1974. The main increase was in paper and paperboard, 58 000 t of paper being imported for $31 million compared with 46 000 t for $19 million in 1974. The volume and value of other forest products imported increased slightly.

RESEARCH AND DEVELOPMENT

RESEARCH

The **Report of the Forest Research Institute for 1975,** published separately, deals fully with the year's research programme.

WOOD USE

Beech trials—Various studies of the different species are nearing completion. The sawing and grading aspects of a comprehensive study of the four commercially important beeches have been reported on. An interim report has been released on a separate sawing and grading trial of mountain beech in Southland, and the field work is almost completed on a utilisation study of hard beech from Westland. End-use trials are currently being undertaken by various firms in the North Island to assess the suitability of the four beech species in furniture, turnery, brush and handle and dowel manufacture, strip flooring, boat building, laminated timber ladders, pallets, and truck decking. Other end-use trials have been arranged for the South Island, including the suitability of different beeches for matches.

Southern pine timbers—An investigation to determine the properties and grade outturn of New Zealand-grown southern pine *(P. taeda, P. palustris,* and *P. elliottii)* timbers has been carried out. *P. taeda* and *P. palustris* have been found sufficiently similar in properties to *P. radiata* to be graded and accepted on the same basis as this timber. However, *P. elliottii,* because of its much lower average modulus of elasticity (or stiffness) and its extreme brittleness, cannot be grouped with radiata for use as framing. The effect of the investigation has been to make *P. taeda* and *P. palustris* approved timbers for use in building in terms of the model building bylaw. However, *P. elliottii* is not an approved framing or structural timber nor is it considered suitable for fence posts or strainers. Its future use lies in sawn boards and/or reconstituted products.

Poles and piles—The Forest Service, in conjunction with the New Zealand Timber Research and Development Association, conducted a seminar on "Roundwood" during the year. Two important recommendations from the seminar related to selection, design, and grading of poles and piles for building purposes and the establishment of a New Zealand standard for softwood transmission poles. In both instances, considerable progress has since been made in formulating acceptable minimum standards for these commodities and in gaining acceptance of the use of poles and piles in house building.

End-use survey—The survey of timber and wood-based products in new residential construction has been completed and is being published, and the field work for the commercial buildings end-use survey has been completed and the data are being statistically evaluated at present. The survey on manufactured wood products, carried out with the assistance of the Department of Statistics, has been completed and is being reported on.

Standards—The Forest Service has been actively engaged on standards committees concerned with wood products. Standards have been completed or nearly completed during the year for timber ladders, round timber fence posts, specifying timber and wood-based products for use in building, classifying and grading of New Zealand exotic timbers, construction requirements in bylaws for dwellings not requiring specific design, and design and construction.

Timber inspection—The procedures adopted for container cargoes are working well, despite a marked increase in this type of handling, including the provision of roll-on roll-off facilities at Mt. Maunganui and Nelson, which are working regularly on trans-Tasman trade.

TIMBER PRESERVATION AUTHORITY

The Timber Preservation Authority had by January 1976 been operating for 20 years.

As a result of investigations into the internal quality control and sampling procedures being carried out by treatment plants, the authority has formulated a new sampling prescription which will place greater responsibility on the industry to maintain standards.

A preservative treatment devised by the Forest Research Institute, in conjunction with particleboard manufacturers, has been approved for particleboard in exterior uses. A treatment for timber used for exterior joinery, that previously was accepted for use on exotic timbers only, has now been approved for native timbers.

For the first time the authority had this year to prosecute a preservation company for attempting to sell improperly treated timber.

ENGINEERING DEVELOPMENTS

Landscaping—Forest Service landscape architects are involved in several large projects including: a joint study with Department of Lands and Survey officers of the 6700-ha Woodstock farming and forestry property in Hawke's Bay; assisting the Ministry of Works and Development in planning landscaping in Lake Taupo Forest; and participating in a comprehensive inter-departmental land-use study in Marlborough. Attention to landscaping is being given in all Forest Service engineering developments to reduce possible undesirable environmental effects.

Mapping—Mapping from aerial photography has in recent years become the most efficient and economic method of recording changes in area planted, tended, and harvested and for assessing stocked areas by species, age, or wood volume. To speed up this essential forest-management work an additional plotter was bought in Switzerland this year and is being installed at Nelson.

Use of satellite information—Information that is now becoming available regularly from the NAASA "Landsat" satellite is being applied, with assistance from the Department of Scientific and Industrial Research, to forestry. The first use is to try to identify broadly the areas of windthrown forest in Canterbury that are drying out fastest so that harvesting can be concentrated on wood that is likely to deteriorate first. It is hoped also that satellite identification can be used for discovering parts of forests infected by disease.

Reduction in roading costs—Construction costs have been reduced by use of chemical subgrade stabilisers to improve the bearing capacity of road subgrades and thus reduce the depth of metal needed on logging roads. An experiment is to be conducted in Southland conservancy to determine how to apply the technique most effectively.

Communications—Further progress was made during the year in converting from high-frequency radio to the more efficient very-high-frequency equipment. About half of the Forest Service stations are now of this type. Some are solar-powered repeater stations that have been installed by helicopter on otherwise inaccessible sites to avoid erection of power lines and the cost and scarring of road formation. Battery-operated transportable very-high-frequency repeaters have been provided for all main areas for use during special operations of limited duration. Their main role is for fire fighting, particularly in high country, but they can give coverage during rescue operations. A reliable communications network can be established with this equipment anywhere in New Zealand, when the need arises, at a much lower cost than where continuous coverage must be maintained.

OTHER ACTIVITIES

DEVELOPMENT ASSISTANCE

The rapid expansion of requests for assistance to overseas forestry development noted last year has continued, and currently 15 officers are overseas on long-term bilateral-aid assignments. In addition, 19 short-term assignments were undertaken involving a wide range of forestry activities and visits to many parts of the world. The position has now been reached where the availability of suitably experienced staff is making it necessary to determine priorities in meeting requests.

The Fiji pine scheme, to which seven Forest Service officers are seconded, continues to be one of the major assistance projects. It is receiving equipment and help with long-term planning. Other aid to Fiji was for hardwood reforestation, the Nasinu Timber Research Centre, and the Lololo Forestry Training Centre, which trains both pine scheme and Fijian Forestry Department staff.

Further aid for Tonga has included the design, building, and testing in New Zealand of a mobile sawmill, suitable for coconut stem utilisation, and the training of Tongans in operation of the plant, which will be shipped to Tonga soon. The Forest Service and the Ministry of Foreign Affairs have organised a seminar to be held in Tonga next October on coconut stem utilisation. Investigations on methods of utilisation have continued, and a senior Forest Service scientist went to the Philippines to evaluate research there.

Advice has been given on possible forestry projects in the Solomons and the Forest Service is to supervise reforestation. The timber resources of Niue and possibilities for development were studied at the request of the administration, and similar technical assistance was given in Western Samoa. Papua New Guinea has received equipment to modernise two sawmills and assistance in establishing a timber industry training centre.

Guyana requested New Zealand help in developing its timber preservation industry and in establishing treatment standards, and an investigation has been made. In northern Peru three seconded officers have begun work on a utilisation and reforestation programme. Arising from a ministerial visit to Saudi Arabia and a subsequent departmental inspection, New Zealand may participate in forest rehabilitation there.

New Zealand support for the Association of South-east Asian Nations (ASEAN) includes two categories of forestry assistance. The first is an end-use survey of exported ASEAN wood products, which is being undertaken jointly by New Zealand consultants, the Forest Service, and counterpart officers from each ASEAN country. The other assistance is with afforestation projects, for which New Zealand technical backing may be provided.

Most of New Zealand's forestry aid has been guidance in practical application of techniques, especially in plantation management. In the South Pacific particularly there are very good prospects for forest resource development that will provide both immediate and long-term social and economic benefits without disrupting traditional customs and life styles.

OVERSEAS VISITS

Following are details of overseas visits made by Forest Service officers in addition to those connected with the development assistance referred to in the previous section.

The Director of Marketing visited Japan, the Peoples Republic of China, and Korea to promote log sales, and another officer investigated the prospects for sales in the Philippines.

The Director of the Commercial Division, while a member of a trade delegation to the Middle East, arranged a major sale of radiata pine to Saudi Arabia.

The Director of Economics took part in the NAFTA review in Australia.

An engineer visited Europe to obtain information on wood-lamination machinery.

A Forest Research Institute officer visited France, Germany, and the United States to evaluate methods to minimise the effects of a needle-cast disease associated with a substantial decline in the productivity of New Zealand's older Douglas fir forests. Another scientist investigated aspects of the ecology of South American beech forests which could be relevant to the management of New Zealand beech forests. Research into forest products, particularly wood preservation, was studied in Japan by another scientist. A forester investigated computer-based mensuration, management, and land-use planning systems in Australia.

Scientific conferences—Officers attended the following scientific conferences: the International Symposium on Organisms and Wood, in Germany; the British Wood Preservers' Association Convention; the IUFRO Conference on Establishment, Maintenance, and Use of Permanent Plots in Growth and Yield Research, in Poland, and an IUFRO meeting on economics and harvesting of thinnings, in Australia; the Conference on Physiological Genetics of Forest Tree Yield, in Britain; the Botanical Congress, in the U.S.S.R.; the International Symposium on Hydrological Characteristics of River Basins, in Japan; and the seventeenth CSIRO Forest Products Research Conference in Australia.

TRAINING

All forestry trainees will now spend their first year working in the field before being selected to undertake, as forester trainees, the university degree course or to pursue, as ranger trainees, the appropriate forestry certificate studies with the Technicians Certification Authority. With industry support the Forest Service has recommended to the authority the introduction in 1977 of a five-stage New Zealand Certificate in Forestry, thereby putting forestry in line with professions such as engineering, architecture, land surveying, and science.

The initial intake of cadet woodsmen to the Aupouri Forest Woodsmen Training School in Northland completed 2 years of their training in December 1975 and will spend their final year on stations in Auckland Conservancy.

It is pleasing to record that 6 of the 13 forester trainees who graduated from the University of Canterbury at the end of 1975

gained honours. This is the highest figure for departmentally sponsored trainees since the School of Forestry re-opened in New Zealand in 1970.

Twenty-one ranger trainees completed the forest ranger certificate course at the Forestry Training Centre, Rotorua.

Training for industry—Regular courses in timber utilisation, preservation, seasoning, and grading continue to be well supported. Both the Forestry Training Centre and the Timber Industry Training Centre catered for more trainees from private forest industry in 1975. By February 1976, the Timber Industry Training Centre had been operating 10 years. It began with one trade training officer and a course attended by four trainees. In 1975, the principal and 5 trade training officers held 68 courses, attended by 564 tradesmen. This expansion reflects increasing industry recognition of the value of the training programmes.

The centre continues to contribute to New Zealand's overseas development assistance. In 1975, trainees came from Fiji, Indonesia, Laos, Malaysia, and Papua New Guinea. Privately sponsored trainees from Australia and Sweden were also accepted.

The centre is making a growing contribution towards research projects benefiting both New Zealand industry and countries receiving New Zealand development assistance.

APPENDIX 1

Area of State Forest Land as at 31 March 1976

(Area in hectares)

Conservancy	Permanent State Forest*		Total Area of State Forest Land	State Forest Land as Percentage of Total Land Area of Conservancy
	Ordinary	National Endowment		
(1)	(2)	(3)	(4)	(5)
Auckland	348 102	38 313	386 415	11.4
Rotorua	357 921	136 879	494 800	15.7
Wellington	582 745	16 506	599 251	12.7
Nelson	914 844	290 601	1 205 445	43.1
Westland	499 961	230 303	730 264	46.7
Canterbury	264 841	1 476	266 317	6.5
Southland	440 415	28 317	468 732	6.9
Total	3 408 829	742 395	4 151 224†	15.6

*By the Forests Amendment Act 1973/122 the appellation Provisional State Forest no longer applies.
†Excludes 103 028 hectares administered as State forest land.

Reservations and Withdrawals

	Hectares
Land placed under State reservation	15 338
Areas withdrawn from reservation comprised—	
For national parks	5 575
For roads	2
For scenic reserves	635
Other	9 352

APPENDIX 2

New Area Planted in State Exotic Forests—by Species

(Area in hectares)

Year Ended 31 March	Radiata pine	Douglas fir	Corsican pine	Other	Total
(1)	(2)	(3)	(4)	(5)	(6)
1953	1 089	344	368	494	2 295
1954	1 157	299	174	364	1 994
1955	1 198	534	194	223	2 149
1956	1 724	486	223	279	2 712
1957	1 514	680	259	380	2 833
1958	1 586	939	409	498	3 432
1959	862	846	599	575	2 882
1960	1 036	680	437	741	2 894
1961	1 926	858	356	761	3 901
1962	2 651	915	603	595	4 764
1963	3 675	749	822	898	6 144
1964	5 075	745	848	775	7 443
1965	5 947	1 571	551	606	8 675
1966	6 115	1 233	844	123	8 315
1967	6 159	1 664	463	302	8 588
1968	7 188	2 008	173	292	9 661
1969	10 240	2 391	272	588	13 491
1970	11 746	2 166	192	683	14 787
1971	12 674	1 435	97	532	14 738
1972	11 795	880	27	311	13 013
1973	15 792	1 107	19	440	17 358
1974	19 673	794	20	472	20 959
1975	19 515	795	15	704	21 029
1976	20 150	653	9	853	21 665

APPENDIX 3

Establishment and Clear Felling in State Exotic Forests

(a) *Totals for Conservancies as at 31 March 1976**

(Area in hectares)

Conservancy	Operations During Year			Other Changes in Stocked Area	Stocked Area	Areas Awaiting Restocking	Total Productive Area
	New Area Planted	Former Productive Areas Re-stocked By Replanting	Area Clear Felled with Yield				
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Auckland	4 624	971	624	−184	52 776	1 171	53 947
Rotorua	5 915	4 332	3 799	+954	172 024	4 718	176 742
Wellington	3 593	350	321	+491	47 403	682	48 085
Nelson	2 338	488	675	−987	37 664	736	38 400
Westland	1 053	413	29	−10	10 050	13	10 063
Canterbury	829	686	728	−62	25 785	2 403	28 188
Southland	3 313	262	322	+94	39 429	271	39 700
Total	21 665	7 502	6 498	296	385 131	9 994	395 152

*Figures for year ended 31 March 1976 are provisional.

(b) *Totals for Both Islands and New Zealand*

(Area in hectares)

Region	Operations During Year			Other Changes in Stocked Area	Stocked Area	Areas Awaiting Restocking	Total Productive Area
	New Area Planted	Former Productive Areas Re-stocked By Replanting	Area Clear Felled with Yield				
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Total North Island, year ended 31 March—							
1976	14 132	5 653	4 744	+1 261	272 203	6 571	278 774
1975	13 164	5 454	4 004	−2 566	255 901	4 716	260 617
1974	13 248	4 416	3 591	−1 572	243 852	5 227	249 080
1973	10 750	3 303	3 630	− 306	231 209	5 763	236 972
1972	8 004	2 937	3 054	− 807	221 094	6 324	227 418
1971	8 976	2 722	3 113	−1 913	214 014	5 031	219 045
Total South Island, year ended 31 March—							
1976	7 533	1 849	1 754	− 965	112 928	3 423	116 351
1975	7 865	1 084	1 179	−1 451	106 265	3 219	109 484
1974	7 711	1 474	1 102	− 442	99 947	2 672	102 619
1973	6 608	1 303	1 032	− 334	92 272	3 459	95 731
1972	5 009	2 011	1 493	− 779	85 727	3 461	89 188
1971	5 762	879	1 291	− 287	80 980	4 534	85 514
Total New Zealand, year ended 31 March—							
1976	21 665	7 502	6 498	+ 296	385 131	9 994	395 125
1975	21 029	6 538	5 183	−4 017	362 166	7 935	370 101
1974	20 959	5 890	4 693	−1 984	343 799	7 899	351 699
1973	17 358	4 606	4 662	− 640	323 481	9 222	332 703
1972	13 013	4 948	4 547	−1 586	306 821	9 785	316 606
1971	14 738	3 601	4 404	−2 200	294 994	9 565	304 559

APPENDIX 3—continued

ESTABLISHMENT AND CLEAR FELLING IN STATE EXOTIC FORESTS AS AT 31 MARCH 1975

(c) *By Forests*

North Island Conservancies

(Area in hectares)

Conservancy and Forest	Stocked Area at 31 March 1974	Operations During Year			Other Changes in Stocked Area	Stocked Area at 31 March 1975*	Area Awaiting Restocking	Total Productive Area
		New Area Planted	Former Productive Areas Restocked By Planting	Area Clear Felled with Yield				
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Auckland—								
Athenree ..	760	..	58	36	5	787	36	823
Aupouri ..	4 573	1 136	..	9	35	5 735	9	5 744
Glenbervie ..	2 866	366	..	43	−6	3 183	43	3 226
Great Barrier ..	41	..	..	..	..	41	..	41
Katikati ..	19	..	..	..	..	19	..	19
Coromandel ..	442	..	12	8	−11	435	17	452
Mangawhai ..	872	57	..	..	..	929	..	929
Maramarua ..	4 367	..	199	159	−6	4 401	137	4 538
Omahuta ..	431	..	13	25	−1	418	25	443
Puhipuhi ..	524	..	25	12	−2	535	18	553
Puketi ..	108	..	..	..	−1	107	..	107
Pureora ..	2 784	279	10	10	−96	2 967	10	2 977
Riverhead ..	4 036	..	307	210	−118	4 015	272	4 287
Russell ..	38	..	..	..	..	38	..	38
Tairua ..	7 016	565	56	54	−34	7 549	72	7 621
Tainui-Kawhia	161	187	..	..	43	391	..	391
Tawarau ..	140	180	..	..	−20	300	20	320
Waipoua ..	2 269	12	115	72	−43	2 281	88	2 369
Waitangi ..	1 784	77	..	19	−4	1 838	27	1 865
Waiuku ..	1 066	..	22	14	1	1 075	135	1 210
Whangapoua ..	2 937	510	..	1	..	3 446	4	3 450
Whenuakite ..	..	..	..	..	4	4	..	4
Woodhill ..	6 876	559	21	63	102	7 495	63	7 558
Total ..	44 110	3 928	838	735	−152	47 989	976	48 965
Rotorua—								
Haparangi ..	229	..	..	..	..	229	..	229
Horohoro ..	945	..	..	..	..	945	..	945
Kaingaroa ..	107 132	731	3 824	2 506	−1 572	107 609	3 283	110 892
Lake Taupo ..	6 629	2 063	..	..	−28	8 664	..	8 664
Mangatu ..	7 626	724	..	..	−29	8 321	..	8 321
Manutahi ..	130	..	..	..	−77	53	..	53
Marotiri ..	155	..	..	..	−21	134	..	134
Patunamu ..	2 050	108	..	..	31	2 189	..	2 189
Rotoehu ..	5 418	168	41	79	..	5 548	..	5 548
Ruatoria ..	2 408	1 392	..	..	−23	3 777	..	3 777
Tihoi ..	601	278	..	..	−7	872	..	872
Waimihia ..	17 130	..	325	409	−14	17 032	..	17 032
Wairakei ..	..	53	..	..	197	250	..	250
Whaka ..	4 159	143	95	65	3	4 335	..	4 335
Wharerata ..	1 744	155	..	..	1	1 900	..	1 900
Whirinaki ..	2 577	208	..	20	−1	2 764	..	2 764
Total ..	158 933	6 023	4 285	3 079	−1 540	164 622	3 283	167 905
Wellington—								
Awahohonu ..	1 017	774	..	..	−53	1 738	..	1 738
Erua ..	1 690	..	..	..	..	1 690	..	1 690
Esk	3 359	15	..	1	−731	2 642	..	2 642
Gwavas ..	4 610	130	..	52	−10	4 678	171	4 849
Karioi ..	6 895	175	107	58	311	7 430	74	7 504
Kaweka ..	3 750	220	..	..	−68	3 902	..	3 902
Lismore ..	1 873	206	..	..	−175	1 904	..	1 904
Mohaka ..	3 897	476	149	..	4	4 526	100	4 626
Motuiti ..	13	..	..	..	..	13	..	13
Mount Bruce ..	13	..	..	..	..	13	..	13
Ngaumu ..	6 024	319	32	4	−489	5 882	41	5 923
Rangataua ..	356	..	..	..	−356	..	..	..
Raupunga ..	48	..	..	..	..	48	..	48
Rimutaka ..	98	..	..	..	..	98	..	98
Rotoaira ..	291	446	..	..	−5	732	..	732
Ruahine ..	135	7	..	..	−7	135	..	135
Santoft ..	2 503	294	17	3	−8	2 803	70	2 873
Tangimoana ..	148	..	..	..	1	149	1	150
Tararua ..	357	..	..	..	−1	356	..	356
Te Wera ..	1 021	111	..	..	−1	1 131	..	1 131
Tinui ..	23	..	..	..	..	23	..	23
Tongariro ..	1 046	..	..	20	..	1 026	..	1 026
Waiterere ..	1 247	40	26	52	−3	1 258	..	1 258
Waituhui ..	396	..	..	..	..	396	..	396
Woodstock ..	..	..	..	..	717	717	..	717
Total ..	40 810	3 213	331	190	−874	43 290	457	43 747

APPENDIX 3—continued

ESTABLISHMENT AND CLEAR FELLING IN STATE EXOTIC FORESTS AS AT 31 MARCH 1975

(c) *By Forests*—continued

South Island Conservancies

(Area in hectares)

Conservancy and Forest	Stocked Area at 31 March 1974	Operations During Year			Other Changes in Stocked Area	Stocked Area at 31 March 1975	Area Awaiting Restocking	Total Productive Area
		New Area Planted	Former Productive Areas Restocked By Planting	Area Clear Felled with Yield				
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Nelson—								
Charleston ..	..	20	..	..	130	150	..	150
Dumgree ..	27	..	..	3	..	24	..	24
Golden Downs ..	23 974	1 027	276	540	−1	24 736	563	25 299
Hira	2 331	300	..	..	..	2 631	..	2 631
Hukawai ..	145	..	..	..	..	145	..	145
Inangahua West	78	19	..	..	−1	96	..	96
Karamea North	..	76	..	..	34	110	..	110
Karamea South	..	29	..	..	..	29	..	29
Mokihinui ..	..	150	..	..	91	241	..	241
Motueka ..	2 275	154	..	..	−678	1 751	..	1 751
Ohikanui ..	..	5	..	..	..	5	..	5
Opouri ..	..	153	..	..	8	161	..	161
Orikaka ..	..	97	..	..	..	97	..	97
Queen Charlotte	135	..	..	..	..	135	..	135
Rai-Whangamoa	3 013	69	10	..	−158	2 934	..	2 934
Tawhai ..	519	..	..	3	−15	501	..	501
Waimea ..	275	324	..	..	..	599	..	599
Wairau ..	1 682	228	..	..	3	1 913	..	1 913
Waitahu ..	191	51	..	..	..	242	..	242
Totals ..	34 645	2 702	286	546	−587	36 500	563	37 063
Westland—								
Granville ..	281	..	..	..	..	281	..	281
Hochstetter ..	1 289	165	..	..	−47	1 407	..	1 407
Hohonu ..	58	13	..	..	..	71	..	71
Ianthe ..	186	18	..	..	..	204	..	204
Kaniere ..	286	180	..	..	..	466	..	466
Mahinapua ..	820	2	11	23	..	810	11	821
Mawhera ..	1 917	398	..	..	−2	2 313	..	2 313
Nemona ..	1 030	84	..	..	..	1 114	..	1 114
Omoto ..	756	321	4	..	−4	1 077	..	1 077
Paparoa ..	53	..	..	..	..	53	..	53
Waimea ..	1 124	..	..	..	−322	802	320	1 122
Wanganui ..	25	..	..	..	..	25	..	25
Totals ..	7 825	1 181	15	23	−375	8 623	331	8 954
Canterbury—								
Ashley ..	4 983	372	..	146	−158	5 051	357	5 408
Balmoral ..	7 640	44	136	103	−221	7 496	151	7 647
Eyrewell ..	4 700	..	259	9	−83	4 867	1 671	6 538
Geraldine ..	1 851	130	..	..	−1	1 980	4	1 984
Hanmer ..	3 611	..	55	51	−22	3 593	113	3 706
Island Hills ..	189	..	..	..	..	189	..	189
Mt. Thomas ..	359	34	..	..	−29	364	..	364
Omihi ..	1 141	..	26	..	21	1 188	29	1 217
Oxford ..	337	..	..	..	−5	332	..	332
Totals ..	24 811	580	476	309	−498	25 060	2 325	27 385
Southland—								
Beaumont ..	1 973	33	73	53	..	2 026	..	2 026
Berwick ..	5 563	983	15	44	..	6 517	..	6 517
Herbert ..	1 376	71	..	10	7	1 444	..	1 444
Hokonui ..	2 311	..	36	22	5	2 330	..	2 330
Longwood ..	4 040	422	16	10	..	4 468	..	4 468
Naseby ..	1 416	42	10	35	..	1 433	..	1 433
Otago Coast ..	4 661	650	..	13	..	5 298	..	5 298
Owaka ..	931	95	..	..	..	1 026	..	1 026
Rankleburn ..	2 630	54	..	..	..	2 684	..	2 684
Rowallan ..	922	227	..	..	..	1 149	..	1 149
Silver Peaks ..	500	53	..	..	..	553	..	553
Slopedown ..	1 589	322	..	..	−3	1 908	..	1 908
Taringatura ..	677	540	..	..	..	1 127	..	1 127
Tautuku ..	64	..	..	..	..	64	..	64
West Tapanui ..	4 012	..	157	114	..	4 055	..	4 055
Totals ..	32 665	3 402	307	301	9	36 082	..	36 082

APPENDIX 3—continued

Establishment and Clear Felling in State Forests for the Year Ended 31 March 1975

(d) *By Species*

(Area in hectares)

Conservancy and Species	Stocked Area at 31 March 1974	Operations During Year			Other Changes in Stocked Area	Stocked Area at 31 March 1975
		New Area Planted	Former Productive Areas Restocked by Planting	Area Clear Felled with Yield		
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Auckland—						
Radiata Pine ..	34 634	3 758	836	534	192	38 886
Douglas Fir ..	1 938	159	..	..	6	2 103
Corsican Pine ..	2 024	..	..	57	— 150	1 817
Other Species ..	5 514	11	2	144	— 200	5 183
Total ..	44 110	3 928	838	735	— 152	47 989
Rotorua—						
Radiata Pine ..	94 439	5 648	4 034	1 471	— 1 460	101 190
Douglas Fir ..	24 073	292	231	247	— 159	24 190
Corsican Pine ..	11 162	..	..	480	— 18	10 664
Other Species ..	29 259	83	20	881	97	28 578
Total ..	158 933	6 023	4 285	3 079	— 1 540	164 622
Wellington—						
Radiata Pine ..	23 596	3 107	299	110	— 663	26 229
Douglas Fir ..	5 481	43	..	10	— 149	5 365
Corsican Pine ..	2 678	..	..	36	— 25	2 617
Other Species ..	9 055	63	32	34	— 37	9 079
Total ..	40 810	3 213	331	190	— 874	43 290
Nelson—						
Radiata Pine ..	24 369	2 065	252	44	— 778	25 864
Douglas Fir ..	5 450	201	28	14	— 54	5 611
Corsican Pine ..	2 534	..	..	114	— 19	2 401
Other Species ..	2 292	436	6	374	264	2 624
Total ..	34 645	2 702	286	546	— 587	36 500
Westland—						
Radiata Pine ..	5 645	1 117	11	19	— 313	6 441
Douglas Fir ..	456	..	..	..	— 10	446
Corsican Pine ..	121	..	..	..	..	121
Other Species ..	1 603	64	4	4	— 52	1 615
Total ..	7 825	1 181	15	23	— 375	8 623
Canterbury—						
Radiata Pine ..	15 022	498	467	263	— 490	15 234
Douglas Fir ..	2 376	81	1	1	— 19	2 438
Corsican Pine ..	4 000	..	..	16	— 211	3 773
Other Species ..	3 413	1	8	29	222	3 615
Total ..	24 811	580	476	309	— 498	25 060
Southland—						
Radiata Pine ..	23 266	3 322	295	122	3	26 764
Douglas Fir ..	3 028	19	..	..	..	3 047
Corsican Pine ..	3 442	15	10	87	6	3 386
Other Species ..	2 929	46	2	92	..	2 885
Total ..	32 665	3 402	307	301	9	36 082
New Zealand—						
Radiata Pine ..	220 971	19 515	6 194	2 563	—3 509	240 608
Douglas Fir ..	42 802	795	260	372	— 385	43 200
Corsican Pine ..	25 961	15	10	790	— 417	24 779
Other Species ..	54 065	704	74	1 558	294	53 579
Total ..	343 799	21 029	6 538	5 183	— 4 017	362 166

APPENDIX 4

Pruning and Thinning in State Exotic Forests for the Year Ended 31 March 1976

(Area in hectares)

Conservancy and Species	Pruning					Thinned During Year	
	Area Pruned During Year			Total Pruned Area to Date			
	Total Area Pruned	To First Log	To Second Log	To First Log	To Second Log	With Yield	Other
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Auckland—							
Radiata Pine ..	2 481	1 186	24	7 174	790	513	1 945
Douglas Fir ..	..	..	..	62	..	..	227
Corsican Pine ..	..	..	..	..	..	..	..
Other Species ..	10	10	..	1 138	138	11	23
Total ..	2 491	1 196	24	8 374	928	524	2 195
Rotorua—							
Radiata Pine ..	12 523	10 014	..	34 994	435	825	8 847
Douglas Fir ..	..	..	..	3 982	2	535	54
Corsican Pine ..	..	..	..	2 138	53	3	..
Other Species ..	84	66	..	1 245	..	4	..
Total ..	12 607	10 080	..	42 359	490	1 367	8 901
Wellington—							
Radiata Pine ..	2 318.3	251.2	..	4 932.3	33.8	309.7	3 944.3
Douglas Fir ..	..	..	..	283.7	..	7.0	..
Corsican Pine ..	..	..	..	225.2	109.3	51.6	2.0
Other Species ..	43	8	..	2 478.6	11.7	29.7	21.0
Total	2 361.3	259.2	..	7 919.8	154.8	398.0	3 967.3
Nelson—							
Radiata Pine ..	1 928.5	720.5	1	3 351	91	2	2 028
Douglas Fir ..	1	..	..	1 001	1	27	..
Corsican Pine ..	..	..	..	1 412	..	..	..
Other Species ..	..	..	..	120	..	..	..
Total ..	1 929.5	720.5	1	5 884	92	29	2 028
Westland—							
Radiata Pine	605	87	..	211	..	..	112
Douglas Fir ..	..	..	..	32	..	..	..
Corsican Pine ..	..	..	..	11	..	..	..
Other Species ..	8	..	..	81	..	..	..
Total ..	613	87	..	335	..	..	112
Canterbury—							
Radiata Pine ..	850	196	..	1 320	319	35	970
Douglas Fir ..	75	52	2	248	2	..	62
Corsican Pine ..	..	..	..	911	..	..	8
Other Species ..	..	..	..	119	..	..	1
Total ..	925	248	2	2 598	321	35	1 041
Southland—							
Radiata Pine ..	2 925	518	29	3 897	63	125	3 110
Douglas Fir ..	104	..	..	257	..	41	113
Corsican Pine ..	..	..	..	348	5	67	29
Other Species ..	..	..	..	192	16	9	14
Total ..	3 029	518	29	4 694	84	242	3 266
New Zealand—							
Radiata Pine ..	23 630.8	12 972.7	54	55 879.3	1 731.8	1 809.7	20 956.3
Douglas Fir ..	180	52	2	5 865.7	5	610	456
Corsican Pine ..	..	..	..	5 045.2	167.3	121.6	39
Other Species ..	145	84	..	5 373.6	165.7	53.7	59
Total ..	23 955.8	13 108.7	56	72 163.8	2 069.8	2 595	21 510.3

Notes—(1) "Total Area Pruned" (column 2) includes pruning to intermediate steps, e.g., 0–2.7 m, 5.5–8.2 m

(2) "To First Log" (columns 3 and 5) is pruning reaching 4.9–6.1 m. "To Second Log" (columns 4 and 6) is pruning reaching 9.8 m.

(3) Where pruning has gone from below first log up to second log in one operation the area has been included in columns (3) and (4).

APPENDIX 5

State Forest Parks and Recreation Areas 1975–76

(a) *Forest Parks*

Forest Park	Conservancy	Area (hectares)	Gazettal Date
Tararua	Wellington	113 822	14/9/67
Craigieburn	Canterbury	4 452	26/10/67
Kaimanawa	Wellington	74 844	2/10/69
North-west Nelson ..	Nelson	359 026	10/9/70
Coromandel	Auckland	67 558	5/5/71
Pirongia	Auckland	12 897	20/5/71
Rimutaka	Wellington	14 085	10/8/72
Kaweka	Wellington	64 656	31/1/74
Lake Sumner	Canterbury	73 895	4/7/74
Haurangi	Wellington	15 148	16/12/74
Catlins	Southland	49 102	6/3/75
Kaimai-Mamaku	Rotorua	37 141	23/10/75
Whakarewarewa	Rotorua	3 830	23/10/75
Ruahine	Wellington	90 259	15/1/76

Note—Total area of gazetted forest parks at 31/3/76 is 980 715 ha.

(b) *Recreation Areas*

Name	Conservancy	Area (hectares)	Gazettal Date
Hanmer	Canterbury	204	18/6/70
Tairua	Auckland	369	15/7/71
Whareorino	Auckland	14 733	25/10/73
Pukenui	Auckland	592	19/12/73
Great Barrier	Auckland	7 244	17/1/74
Ohau	Southland	6 937	13/2/75
Eyre	Southland	24 889	12/6/75
Snowdon	Southland	44 751	12/6/75
Gwavas	Wellington	203	8/1/76
Balmoral	Canterbury	17	4/3/76

Note—Total area of gazetted recreation areas at 31/3/76 is 99 942 ha.

APPENDIX 6

Total Wood Removals from State Forests for the Year Ended 31 March 1976*

(Volume in thousand cubic metres)

Conservancy	Indigenous			Exotic			Grand Total
	Logs	Smallwood	Total	Logs	Smallwood	Total	
Auckland ..	72	0.4	72	313	19	332	404
Rotorua ..	127	..	127	2 639	49	2 688	2 815
Wellington ..	38	0.5	39	93	22	115	154
Nelson ..	72	1	73	304	..	304	377
Westland ..	187	1	189	2	..	2	191
Canterbury ..	..	..	..	244	7	251	251
Southland ..	81	5	86	111	20	131	217
Total—1975–76*	577	8	586	3 705	117	3 823	4 409
1974–75†	659	5	664	3 582	151	3 733	4 397
1973–74†	570	3	573	3 337	149	3 486	4 059

*Provisional.
†Actual.

Notes—(1) This table shows all roundwood removed from State forests under licences, permits, and log sale agreements.
(2) Roundwood for particleboard production is included with logs.
(3) Totals may not add, due to rounding.

APPENDIX 7

Total Smallwood Removals from State Forests

(Volume in cubic metres)

Category	Year Ended 31 March				
	1971	1972	1973	1974	1975
(1)	(2)	(3)	(4)	(5)	(6)
Posts—					
Indigenous	963	850	651	701	847
Exotic	100 440	70 197	87 500	123 646	120 657
Total.. ..	101 403	71 047	88 151	124 347	121 504
Other fencing material—					
Indigenous	878	425	566	261	434
Exotic	7 759	4 616	4 163	12 903	15 337
Total.. ..	8 637	5 041	4 729	13 164	15 771
Poles—					
Indigenous	57	57	–	5	–
Exotic	13 082	9 401	9 684	9 376	12 358
Total.. ..	13 139	9 458	9 684	9 381	12 358
Other—					
Indigenous	2 010	2 067	2 322	2 723	3 212
Exotic	4 899	4 587	2 747	2 649	2 870
Total.. ..	6 909	6 654	5 069	5 372	5 945
Total smallwood—					
Indigenous	3 908	3 399	3 539	3 690	4 493
Exotic	126 180	88 801	104 094	148 574	151 222
Total.. ..	130 088	92 200	107 633	152 264	155 578

Note—Chipwood for particleboard production is excluded from this table and is included with "logs" in appendix 6.

APPENDIX 8

Total Wood Removals from State Indigenous Forests by Method of Sale for the Year Ended 31 March 1975

(Volume in cubic metres; value in $(000))

Conservancy	Logs		Smallwood		Total	
	Volume	Value	Volume	Value	Volume	Value
(1)	(2)	(3)	(4)	(5)	(6)	(7)
(a) *Sales of Standing Timber*						
Auckland	54 558	195	2 539	2	57 097	197
Rotorua	101 305	212	..	..	101 305	212
Wellington	40 483	235	317	2	40 800	237
Nelson	83 861	162	741	1	84 602	163
Westland	214 690	525	896	2	215 586	527
Canterbury	..	..	..	..	..	..
Southland	26 516	107	..	..	26 516	107
Total—1974–75	521 413	1 436	4 493	7	525 906	1 443
1973–74	445 052	1 273	3 127	6	448 179	1 279
1972–73	423 959	1 368	3 001	6	426 960	1 374
(b) *Sales of Logs*						
Auckland	28 512	392	..	..	28 512	392
Rotorua	61 297	844	..	..	61 297	844
Wellington	125	4	..	..	125	4
Nelson	18 543	64	..	..	18 543	64
Westland	24 400	301	..	..	24 400	301
Canterbury	..	..	..	..	..	..
Southland	5 426	111	..	..	5 426	111
Total—1974–75	138 303	1 716	..	..	138 303	1 716
1973–74	125 511	1 555	..	..	125 511	1 555
1972–73	106 839	1 309	538	2	107 377	1 311

Notes—(1) Logs include saw logs and peeler logs.
(2) Values of log sales relate to the value of timber removed and are based on a bush skid or ride price point.

APPENDIX 9

Total Wood Removals from State Exotic Forests by Method of Sale for the Year Ended 31 March 1975

(Volume in cubic metres; value in $(000))

Conservancy	Logs		Smallwood		Total	
	Volume	Value	Volume	Value	Volume	Value
(1)	(2)	(3)	(4)	(5)	(6)	(7)
			(a) *Sales of Standing Timber*			
Auckland ..	218 868	974	30 948	71	249 816	1,045
Rotorua	1 521 224	2,433	32 328	60	1 553 552	2,493
Wellington ..	103 165	633	19 811	48	122 976	681
Nelson	138 861	144	52	..	138 913	144
Westland	..	..	..	..	..	..
Canterbury ..	111 805	491	10 153	40	121 958	531
Southland ..	52 994	213	19 219	55	72 213	268
Total—1974–75 ..	2 146 917	4,888	112 511	274	2 254 428	5,162
1973–74 ..	1 788 542	4,024	117 308	266	1 905 850	4,290
1972–73 ..	1 472 901	2,669	87 017	165	1 559 918	2,834
			(b) *Sales of Logs*			
Auckland ..	128 316	1,280	3 539	51	131 855	1,331
Rotorua	1 092 259	9,699	26 325	233	1 118 587	9,932
Wellington ..	3 073	42	16	..	3 089	42
Nelson	101 944	649	..	..	101 944	649
Westland	..	..	140	..	..	..
Canterbury ..	7 469	54	540	3	8 009	57
Southland ..	102 856	957	8 151	46	111 007	1,003
Total—1974–75 ..	1 435 917	12,681	38 711	333	1 474 491	13,014
1973–74 ..	1 548 802	10,769	31 238	264	1 580 040	11,033
1972–73 ..	1 389 366	11,026	17 076	123	1 406 442	11,149

Notes—(1) Logs include sawlogs, pulp logs, and peeler logs.
(2) This appendix has been adjusted to exclude any log exports by contractors from standing timber and to include them in the sales of logs.
(3) Values of log sales relate to the value of timber removed and are based on a bush skid or ride price point.

APPENDIX 10

Removals of Exotic Roundwood from State Forests by Thinnings and Clear Fellings

(Volume in cubic metres)

Forest	Year Ended 31 March 1975					1973–74
	Logs		Smallwood		Total	
	Thinnings	Clear Fellings	Thinnings	Clear Fellings		
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Athenree	..	5 396	581	..	5 977	9 048
Aupouri	..	2 028	2 562	469	5 059	3 950
Glenbervie	..	15 317	1 446	1 129	17 892	6 282
Maramarua	839	82 629	4 799	2 017	90 284	87 814
Omahuta	..	5 390	..	401	5 791	1 809
Puhipuhi	138	4 544	1 035	222	5 939	9 296
Riverhead	50	88 236	425	..	88 711	97 770
Tairua	2 906	24 503	133	115	27 657	23 119
Waipoua	..	19 386	853	1 859	22 098	18 603
Waitangi	423	8 334	2 071	47	10 875	8 227
Waiuku	5 344	7 786	4 116	204	17 450	20 576
Wangapoua	..	56	209	53	318	452
Woodhill	40 040	17 912	5 320	..	63 272	74 046
Kauaeranga	1 087	14 840	..	..	15 927	..
Others*	..	..	3 526	895	4 421	6 943
Kaingaroa	303 516	1 992 576	7 607	44 503	2 348 202	2 097 060
Whirinaki	17 175	..	..	..	17 175	17 040
Patunamu	3 287	955	480	..	4 722	5 521
Rotoehu	12 385	58 291	1 280	..	71 956	25 738
Waimihia	..	105 542	..	..	105 542	195 129
Wairakei	62 166	10 673	..	..	72 839	16 722
Whaka	16 902	30 015	125	4 661	51 703	53 039
Esk	..	321	515	1	837	946
Gwavas	2 718	20 649	408	503	25 285	29 342
Karioi	1 268	25 485	773	6 415	33 941	34 376
Kaweka	..	..	..	..	..	..
Lismore	..	..	77	..	77	1 841
Mohaka	..	..	..	68	68	642
Ngaumu	3 734	16 618	3 925	10	24 287	30 667
Santoft	..	..	4 483	56	4 539	5 981
Tangimoana	..	..	599	..	599	..
Te Wera	..	..	52	..	52	105
Tongariro	..	535	..	1 411	1 946	879
Waitarere	..	34 910	409	122	35 441	30 563
North Island	473 978	2 592 927	47 809	65 161	3 179 875	2 913 526
Dumgree	..	1 000	..	..	1 000	5 180
Golden Downs	1 181	238 156	..	..	239 337	237 399
Rai-Whangamoa	..	..	..	..	..	1 631
Others*	..	468	..	52	520	..
Hochstetter	..	..	..	73	73	..
Mahinapua	..	..	..	67	67	..
Ashley	104	49 231	..	420	49 755	27 894
Balmoral	..	40 062	1 872	1 402	43 336	41 651
Eyrewell	..	1 118	397	693	2 208	24 778
Hanmer	3 412	25 260	71	5 408	34 151	41 522
Others*	..	87	..	430	517	1 676
Beaumont	..	18 656	..	54	18 710	31 553
Berwick	7 927	2 730	70	3 842	14 569	8 197
Herbert	52	..	..	1 782	1 834	2 091
Hokonui	17 071	21 417	4 441	489	43 418	47 860
Longwood	4 125	..	2 428	449	7 002	8 891
Naseby	555	11 261	1 553	2 747	16 116	8 832
West Tapanui	3 442	65 037	..	9 086	77 565	78 894
Others*	322	3 255	400	29	4 006	10
South Island	38 191	477 738	11 232	27 023	554 044	568 059
New Zealand	512 169	3 070 665	59 041	92 184	3 734 059	3 481 585

*Includes forests producing less than 280 m^3.

APPENDIX 11

New Zealand Forest Service Sawmilling Operations

(a) *Production of Sawn Timber**

(Volume in cubic metres)

Sawmill	Year Ended 31 December				
	1971	1972	1973	1974	1975
(1)	(2)	(3)	(4)	(5)	(6)
Waipa	104 316	110 611	141 807	143 079	122 422
Conical Hill	26 392	24 318	28 691	31 756	26 985
Total production ..	130 708	134 929	170 498	174 835	149 407

*Includes sleepers.

(b) *Sales of Sawn Timber*

(Volume in cubic metres)

Details	Year Ended 31 December				
	1971	1972	1973	1974	1975
(1)	(2)	(3)	(4)	(5)	(6)
New Zealand sales—					
Green	31 396	39 524	41 396	40 836	37 356
Air seasoned	7 193	10 849	9 573	2 429	2 287
Kiln dried	5 481	3 370	2 863	1 586	1 294
Treated—					
Wet	27 950	30 910	45 259	56 090	49 938
Dry	3 835	5 686	6 500	7 813	1 945
Total	75 855	90 339	105 591	108 754	92 820
Export sales—					
Green	37 547	42 307	43 842	36 366	22 393
Air seasoned	4 960	290	182	595	740
Kiln dried	1 722	1 189	2 101	1 340	1 156
Treated	3 627	1 578	4 106	4 959	1 712
Total	47 856	45 364	50 231	43 260	26 001
Transfers to box factory ..	3 573	2 854	3 705	12 985*	10 099
Grand total ..	127 284	138 557	159 527	164 999	128 920

*Includes commissioning of remanufacturing facilities at Conical Hill.

(c) *Subsidiary Processing of Sawn Timber*

Year Ended 31 December 1975

	Cubic Metres
Quantity kiln dried	24 654
Quantity dressed	65 716
Quantity preservative treated* ..	60 069

*For further details see appendix 12.

APPENDIX 12

Forest Produce Treated

(a) *Sawn Timber Treated by the New Zealand Forest Service*

(Volume in cubic metres)

Location of Plant and/or Year	Preservative				Total
	Boron	Tanalith	Boliden	PCP*/ Fuel Oil	
(1)	(2)	(3)	(4)	(5)	(6)
Waipa	30 497	..	14 730	360	45 587
Conical Hill	10 120	4 362	..	..	14 482
Total, year ended 31 December—					
1975	40 617	4 362	14 730	360	60 069
1974	62 402	4 244	15 918	219	82 783
1973	59 184	..	12 549	375	72 108
1972	31 061	..	10 321	222	41 604
1971	23 163	..	8 665	193	32 021

*Pentachlorophenol.

(b) *Other Timber Treated by the New Zealand Forest Service*

Type and Year	Conical Hill	Waipa		Total	
	Tanalith	Boliden	PCP*/ Fuel Oil	Quantity	Volume
(1)	(2)	(3)	(4)	(5)	(6)
		(Quantities in thousands)			(cubic metres)
Poles	0.5	6.3	13.0	19.8	5 734
Stockyard posts	..	..	0.6	0.6	55
Fencing posts	70.2	191.1	63.5	324.8	7 809
Strainers	3.4	8.7	1.3	13.4	977
Stays	1.8	..	2.8	4.6	117
Sawn battens	64.4	190.6	..	255.0	750
Sleepers†	2.2	..	99.8	102.0	6 079
Other	..	3.8	4.8	8.6	812
		(Volume in cubic metres)			
Total, year ended					
1975	2 826	8 042	11 465	N.A.	22 333
1974	1 523	7 220	11 441	N.A.	20 184
1973	1 472	6 201	10 081	N.A.	17 754
1972	2 095	5 720	15 263	N.A.	23 078
1971	2 633	8 608	12 459	N.A.	23 700

*Pentachlorophenol. †Excluding rejects.

(c) *Total Forest Produce Treated in New Zealand (Forest Service and Private)*

Year	Number of Plants	Treated Sawn Timber m^3	Other Treated Timber—Poles Sleepers, etc m^3	Percentage of Total Sawn Timber Treated
1963–64	199	540 204	125 185	34.4
1964–65	213	650 180	190 737	37.4
1965–66	242	716 260	249 719	40.1
1966–67	260	715 316	243 093	40.5
1967–68	271	624 928	233 720	39.2
1968–69	295	657 024	270 758	38.0
1969–70	290	712 484	241 054	39.5
1970–71	271	716 968	284 406	38.7
1971–72	270	662 924	273 306	37.9
1972–73	265	768 652	246 066	43.0
1973–74	262	939 636	237 685	45.7
1974–75	264	958 378	280 066	46.0

Source: Department of Statistics.

APPENDIX 13

Employment and Training

(a) *Staff and Labour*

Category	Strength, 31 March 1975	Commenced During Year	Left During Year	Strength, 31 March 1976
(1)	(2)	(3)	(4)	(5)
Staff	2 941	421	289	3 073*
Labour—				
Thinning, logging, milling ..	899	903	776	1 026
Other forestry operations ..	2 194	4 465	4 166	2 493
Control of noxious animals ..	210	390	335	265
Cadet woodsmen	99	60	..	59
Total	3 402	5 818	5 277	3 843
Total staff and labour	6 343	6 239	5 566	6 916

(b) *Training*

Category	Year Ended 31 March		
	1974	1975	1976
(1)	(2)	(3)	(4)
Forestry trainees recruited during year† ..	..	..	40
Forester trainees—			
Recruited during year	25	16	11
Studying for degrees in New Zealand ..	53	49	31
Ranger trainees—			
Recruited during year	22	22	..
Under field training	92	90	73
At ranger schools	25	27	27
Research technicians—			
Recruited during year	8	16	..
Under training	28	25	16
Woodsmen—			
Recruited during year	98	99	60
At woodsmen schools	140	179	140
Clerical cadets—			
Recruited	25	41	32

*Includes employees on leave without pay and part-time workers.
†From 1977 onwards forester and ranger trainees will be selected from the forestry trainees recruited in the previous year.

REPORT OF THE AUDIT OFFICE

To the Director-General of Forests.

The Audit Office, acting under statutory authority, has audited the accounts of the Commercial Division, New Zealand Forest Service, for the year ended 31 December 1975.

The audit included such reviews of the accounting procedures and tests of the accounting records and other supporting evidence as were considered necessary in terms of section 20, Public Revenues Act 1953. All the information and explanations required have been obtained. The financial transactions which have come under notice have been within statutory authority.

In the opinion of the Audit Office the attached balance sheet and accompanying accounts give a true and fair view of the state of affairs of the Commercial Division as at 31 December 1975 and of the results of the financial operations for the year.

A. C. Shailes, Controller and Auditor-General.

15 July 1976.

APPENDIX 14

New Zealand Forest Service Commercial Division Accounts for the Year Ended 31 December 1975

A. Operating Account

Year Ended 31 December 1974			Year Ended 31 December 1975	
$	*$*		$	$
	13,322,081	Gross value of production		11,554,746
		Less—		
4,306,121		Cost of logs (note 1)	3,472,309	
4,585,171		Manufacturing expenses (note 2)	4,056,690	
1,465,650		Selling and distribution expenses (note 3)	1,538,418	
1,047,892		Administration and financial (note 4)	1,544,881	
	11,404,834			10,612,298
	1,917,247	Operating profit		942,448
	63,497	*Less* net expenditure on employee accommodation (note 5)		97,253
	1,853,750			845,195
	257,800	Income tax paid		330,000
	$1,595,950	Profit for year		$515,195

B. Profit and Loss Appropriation Account

Year Ended 31 December 1974			Year Ended 31 December 1975	
$	*$*		$	$
	1,595,950	Net profit from Operating Account		515,195
(L)	*2,071*	Plus profit on sale and disposal of assets		99,093
	1,593,879	Tax paid profit		614,288
		Less—		
43,869		Appropriation to fire insurance reserve	34,715	
		Provision for doubtful debts	6,330	
338,644		Proposed dividend	433,922	
	382,513			474,967
	1,211,366	Retained profits		139,321
	4,004,727	Plus balance 1 January		5,200,631
	5,216,093			5,339,952
(L)	*15,462*	Adjustments relating to previous year (note 6)	(P)	46,973
	$5,200,631			$5,386,925

C. Balance Sheet

Year Ended 31 December 1974 $	$		Year Ended 31 December 1975 $	$
		Funds employed—		
	2,990,979	Advances of Government funds		5,538,482
	5,200,631	Accumulated profits		5,386,925
		Represented by the following notional capital apportionment:		
934,874		Bank overdraft	1,627,083	
2,418,912		Term finance	3,099,441	
2,418,912		Accumulated profits and reserves	3,099,441	
2,418,912		Share capital	3,099,442	
8,191,610			10,925,407	
	8,191,610			10,925,407
	475,000	Reserve for fire losses		500,000
	$8,666,610	Total funds employed		$11,425,407
		Current assets—		
2,049,260		Sundry debtors including prepayments (note 7)	2,082,178	
3,040,412		Stocks and stores (note 8)	5,010,709	
	5,089,672			7,092,887
		Fixed assets at cost less depreciation (note 9)—		
2,977,267		Plant, equipment, and tools	3,500,010	
972,321		Buildings	972,847	
450,249		Houses and employee accommodation	438,360	
20,986		Furniture and fittings	12,857	
640,153		Other installations	880,804	
	5,060,976			5,804,878
	10,150,648			12,897,765
		Less—		
887,594		Current liabilities	1,038,436	
338,644		Proposed dividend	433,922	
257,800		Provision for income tax	..	
	1,484,038			1,472,358
	$8,666,610			$11,425,407

The notes which follow form part of and are to be read in conjunction with these accounts.

M. J. Conway, Director-General.
A. A. B. Webby, Director, Commercial Division.

D. Notes on the Accounts

1. Cost of Logs

Expenses of logs to mills and other roundwood extracted under contract to delivery point, after adjusting for opening and closing stock. Includes an average stumpage for all supplies, both clear fellings and thinnings, as follows:

	1975	1974	1973
Waipa—			
Cents per cu ft	7.82	7.85	8.0
($ per m^3)	(2.76)	(2.77)	(2.84)
Conical Hill—			
Cents per cu ft	6.33	6.3	5.24
($ per m^3)	(2.23)	(2.22)	(1.85)

2. Manufacturing Expenses

Expenses of manufacturing and processing into finished products in mill yard.

3. Selling and Distribution Expenses

Direct wages and salaries of sales staff and yard staff involved in preparing finished products for sale, together with all expenses from mill gate to point of sale.

4. Administration and Financial Expenses

	1975	1974	1973
Includes:			
Interest paid	$210,984	$175,841	$204,094
Audit Fee	$1,954	$1,778	$1,918

5. Net Expenditure on Employee Accommodation

Excess of direct outgoings over actual rents determined by agreement between the State Services Commission and the Combined State Services Organisation and the New Zealand Timber Workers' Union.

6. Adjustments Relating to Previous Years

	$	$
1974 income tax overprovided		43,160
1974 weight conversion adjustment		53,352
		96,512
Less—		
Back pay	45,386	
Matea logging	4,153	
		49,539
		$46,973

7. Sundry Debtors

Is the net amount after deducting the following:

	1975	1974	1973
Provision for doubtful debts ..	$114,000	$153,679	$123,000
Provision for discounts	$14,091	$10,497	$10,933

8. Stocks and Stores

This item comprises:

	1975	1974	1973
Log and timber stocks ..	$3,931,877	$2,301,498	$1,608,209
General stores	$1,078,832	$738,914	$462,230

9. Fixed Assets

	Original Cost at 31 December 1975	Cumulative Depreciation to 31 December 1975	Additions	Deletions
	$	$	$	$
Plant, equipment, and tools	7,629,267	4,129,257	1,387,397	423,642
Buildings	1,659,661	686,814	50,667	..
Houses and employee accommodation ..	826,312	387,952	524	..
Furniture and fittings ..	31,820	18,962	5,309	10,359
Other installations ..	1,212,686	331,883	251,675	..
	$11,359,746	$5,554,868	$1,695,572	$434,001

Depreciation provided in 1975 was $673,118; in 1974, $517,930; in 1973, $487,075.

E. Source and Application of Funds

	1975	1974	1973
	$	$	$
Source of funds—			
Net funds from operations*	1,228,956	2,096,347	1,931,206
Increases in advances from Government	2,547,503	274,493	..
Proceeds from sale of fixed assets	367,930	26,480	24,905
Decrease in current assets	..	..	751,923
Increase in current liabilities	..	274,176	183,895
	$4,144,389	$2,671,496	$2,891,929
These funds were applied in—			
Acquisition of fixed assets	1,695,572	1,190,080	912,846
Increase in current assets	2,003,215	1,236,499	..
Decrease in advances from Government	..	..	1,770,456
Decrease in current liabilities	106,958	..	..
Payment of dividend	338,644	244,917	208,627
	$4,144,389	$2,671,496	$2,891,929
*Net funds from operations—			
Net profit from operating account	515,195	1,593,879	1,444,131
Adjustment relating to previous year	46,973(P)	15,462(L)	..
Depreciation	673,118	517,930	487,075
	1,235,286	2,096,347	1,931,206
Less provision for doubtful debts	6,330	..	..
	$1,228,956	$2,096,347	$1,931,206

F. Highlights

	1975	1974	1973
	$	$	$
Gross value of production ($000)	11,555	13,322	11,849
Production (m^3)	149,407	174,801	170,572
Total personnel employed	920	873	847
Total remuneration to employees ($000)	5,380	4,905	4,318
Tax paid profit $	614,288	1,593,879	1,444,131
Proposed dividend $	433,922	338,644	244,917
Retained profits $	139,321	1,211,366	1,049,214
Percentage of profits retained	23	76	72
Total assets ($000)	12,898	10,150	8,269
Working capital ($000)	3,994	2,671	1,894
Total funds employed ($000)	11,425	8,666	7,153

G. Statistics

	1975	1974	1973
Dividend rate (percent)	14	14	12.5
Number of times covered by profit	1.4	4.7	5.9
Tax paid profit to—			
(a) Shareholders funds (percent)	8.31	32.9	36.8
(b) Gross sales (percent)	4.46	11.9	12.2
(c) Share capital (percent)	16.62	65.9	73.7
(d) Total funds employed (percent)	4.51	18.4	17.5
Current assets to:			
(a) Current liabilities	2.3:1	2.4:1	2.0:1
(b) Stocks	1.4:1	1.7:1	1.9:1

REPORT OF THE AUDIT OFFICE

To the Director-General of Forests.

The Audit Office, acting under statutory authority, has audited the accounts of the New Zealand Forest Service for the year ended 31 December 1975.

The audit included such reviews of the accounting procedures and tests of the accounting records and other supporting evidence as were considered necessary in terms of section 20, Public Revenues Act 1953. All the information and explanations required have been obtained. The financial transactions which have come under notice have been within statutory authority.

In the opinion of the Audit Office the attached balance sheet and accompanying accounts give a true and fair view of the state of affairs of the Forest Service as at 31 December 1975 and of the results of the financial operations for the year.

A. C. Shailes, Controller and Auditor-General.

15 July 1976.

ERRATUM

In the accounts which appear on page 48 the item "Sales of Logs—Exotic" in the "Income and Expenditure Accounts: Forests in Production" is understated by $985,911. The deficit shown as $2,526,178 is thus reduced to $1,540,267. The amended deficit should be carried forward to the balance sheet on page 49, with a corresponding adjustment to the item "Creditors", which should read $2,008,900, not $2,994,811.

M. J. Conway, Director-General.
D. L. Hard, Chief Accountant.

The report of the Audit Office published on this page is to be read subject to the above erratum.

A. C. Shailes, Controller and Auditor-General.

APPENDIX 15

New Zealand Forest Service Accounts for the Year Ended 31 December 1975
(excludes Commercial Division)

General Administration Account (Note 1)

	$	$
Direct charges on—		
Establishment, tending, and protection in amenity and protection forests (net)	240,499	
Fire prevention and administration of fire districts (note 2)	272,682	
Technical investigations research, etc.	5,123,371	
Assistance to public and private forestry	766,544	
Timber inspection and termite control	188,823	
Noxious animal control (note 2)	1,571,033	
Work for other departments	530,955	
Staff training	635,479	
	9,329,386	
Less miscellaneous recoveries	506,383	
		8,823,003
General administration charges—		
Staff expenses (note 3)	6,903,970	
Office expenses (note 4)	1,111,006	
Maintenance and depreciation	1,505,885	
Miscellaneous general expenses	512,205	
	10,033,066	
Less overhead recoveries from production forests and Commercial Division	4,036,042	
		5,997,024
		14,820,027
Less miscellaneous revenue (note 5)		661,646
Net deficit for year		14,158,381
Plus previous years' adjustment (note 6)		7,569,070
Total deficit transferred to balance sheet		$21,727,451

Income and Expenditure Accounts: Forests in Production

	Exotic		Indigenous	
	$	$	$	$
Income from—				
Sales of logs	16,406,066		1,857,111	
Sales of standing timber	2,271,464		1,281,499	
Miscellaneous revenue	889,144		13,990	
	19,566,674		3,152,600	
Less expenditure on utilisation	9,663,667		1,693,608	
Net income from sales		9,903,007		1,458,992
Less expenditure on forest management—				
Establishment	2,433,588		127,673	
Tending	2,003,840		2,065	
Protection	1,074,859		45,550	
Maintenance of assets, depreciation, and miscellaneous expenditure	5,836,615		960,283	
Personnel oncost (note 7)	1,080,283		117,633	
		12,429,185		1,253,204
Surplus for year transferred to balance sheet		$2,526,178(D)		$205,788

Forest Development Account: Developing Forests

	$	$
Expenditure on continuing development—		
Establishment	5,738,839	
Tending	2,354,578	
Protection	585,548	
Maintenance of assets, depreciation, and miscellaneous expenditure (note 8)	5,582,075	
Personnel oncost (note 7)	1,335,106	
Total expenditure		15,596,146
Income from—		
Sales of logs	373,502	
Sales of standing timber	595,170	
Miscellaneous revenue	109,101	
	1,077,773	
Less expenditure on utilisation	303,535	
Net income from sales		774,238
Net expenditure on development transferred to balance sheet		14,821,908

Balance Sheet

	$	$
Source of funds—		
Advances from Government (note 9)	174,811,719	
Surplus—indigenous production forests	205,788	
		175,017,507
Less deficits—		
Exotic production forests	2,526,178	
General administration account	21,727,451	
		24,253,629
		$150,763,878
Employment of funds—		
Land, buildings, roads, plant, etc. (note 10)	69,846,914	
Forest assets (note 11)	73,152,607	
		142,999,521
Total fixed assets—		
Forestry encouragement loans (note 12)		1,818,292
Current assets—		
Debtors	6,496,348	
Stocks and stores	2,235,444	
Deposits held	209,084	
	8,940,876	
Less creditors (note 13)	2,994,811	
		5,946,065
		$150,763,878

The notes that follow form part of and are to be read in conjunction with these accounts.

M. J. Conway, Director-General.
D. L. Hard, Chief Accountant.

Notes to the Accounts

As stated on page 8 the foregoing accounts have been presented in a new form to present a more realistic view of the operations of the Forest Service.

In the past, recognising that the greater part of the exotic forest estate was still in the developmental stage, total expenditure has been capitalised and shown in the published accounts as the "net cost of development and management". This treatment applied not only to forests clearly under development and having little or no production but to the relatively few major production units. It is also applied to expenditure on amenity and protection forest areas maintained for purposes other than production which should therefore more correctly be treated as a charge to general government.

The problems associated with the application of traditional accounting principles to the long forestry production cycle are recognised. Nevertheless, there are now enough forests at the stage which warrants the adoption of an accounting procedure to indicate the return from their utilisation.

Forests (and their expenditure and revenue) have therefore been classified as follows:

(a) Exotic production—Forests which are producing wood from the greater part of the potential productive area of the forest.

(b) Indigeneous production—Indigeneous forests being managed for the production of native timbers.

(c) Developing exotics—Forests which are under development and are not producing wood from a significant part of the potential productive area of the forest.

(d) Other—Expenditure within amenity and protection areas and on those functions of administrative units which are unrelated to the role of production forestry.

Following this pattern, capitalisation of expenditure on categories (a) and (b) ceased with effect from 1 January 1975. From this date, in both groups, operational expenses have been related to earnings in the income and expenditure account, to show the year's surplus or deficit. The net costs of category (c) continue to be capitalised in the forest development account. Net expenses of category (d), including an adjustment for that capitalised prior to 1975, now appear in the general administration account.

Because of the change in presentation it has not been possible to show a comparison with the previous year's results; this will be done from next year. As formerly, trading results of the Commercial Division are published in full (appendix 14). All Commercial Division assets and liabilities have therefore been excluded from the balance sheet.

1. *General Administration Account*

Net operating expenses of the department's general government function. Payments to local authorities for roading purposes (fifths and tenths), which formerly appeared in this account, are now charged to indigenous production forests.

2. *Fire Prevention and Noxious Animals Control*

Expenditure on non-production areas only. Costs in production forests are charged to those units.

3. *Staff Expenses*

Salaries, overtime, travelling, and general expenses of staff.

4. *Office Expenses*

Postages, stationery, and general office expenses.

5. *Miscellaneous Revenue*

Includes $210,984 interest and $338,644 dividends paid by the Commercial Division.

6. *Previous Years' Adjustment*

Net expenditure since inception formerly capitalised in the Forest Development and Management Account as "Net costs of development and management" for units which are now considered more correctly a charge to general administration. Details are:

	$	$
Administration expenses—		
Personnel	3,248,815	
Office expenses	3,597,429	
Maintenance and depreciation	1,237,589	
Assistance to public and private forestry ..	18,683	
Miscellaneous general expenses	131,429	
	8,233,945	
Less miscellaneous revenue	230,910	
		8,003,035
Direct expenditure on fire protection and prevention		358,436
		8,361,471
Less net income from amenity and protection forests		792,401
		$7,569,070

7. *Personnel Oncost*

Holiday pay and accident compensation levy for all personnel and wet time and sick leave for wage workers.

8. *Maintenance of Assets, Depreciation, and Miscellaneous Expenditure*

Includes depreciation on total plant and vehicles amounting to $1,278,099.

9. *Advances from Government*

Combine the former national development loans account and the consolidated revenue account. Advances as at 1 January 1975 were $129,677,935; additional advances during 1975 amounted to $45,133,784.

10. *Land, Buildings, etc.*

	Land and Buildings	Roads and Bridges	Plant and Vehicles	Other Assets	Total
	$	$	$	$	$
Original cost at 31 December 1974 ..	28,968,777	24,762,734	11,394,631	5,751,789	70,877,931
Net additions and disposals ..	3,846,384	3,775,437	3,809,103	863,136	12,294,060
Original cost at 31 December 1975 ..	32,815,161	28,538,171	15,203,734	6,614,925	83,171,991
Depreciation—					
Accumulated at 31 December 1974	4,316,767	125,337	7,381,648	251,644	12,075,396
Adjustment for year	315,370	14,992	885,527	33,792	1,249,681
Accumulated at 31 December 1975	4,632,137	140,329	8,267,175	285,436	13,325,077
Net balance sheet values—					
At 31 December 1974	24,652,010	24,637,397	4,012,983	5,500,145	58,802,535
At 31 December 1975	28,183,024	28,397,842	6,936,559	6,329,489	69,846,914

11. *Forest Assets*

Net expenditure on tree crop at historical values up to 31 December 1974. Interest charged prior to 1940 amounting to $976,098 has been deducted. Notional interest since has also been written out of the accounts. Details are:

	$	$
Net costs as at 1 January 1975		68,915,885
Plus net costs for the year		14,821,908
		83,737,793
Less notional interest written-off ..	3,016,116	
Less previous years' adjustment	7,569,070	
		10,585,186
		$73,152,607

12. *Forestry Encouragement Loans*

Approximately half only is repayable in terms of the Forestry Encouragement Loans Regulations 1967.

13. *Creditors*

Includes $209,084 for deposits held on contracts, and a provision for Workers Compensation of $9,026 being balance of reserve created to cover Commercial Division liability for accidents which occurred prior to the operation of the Accident Compensation Act 1972.

APPENDIX 16

Production of Rough Sawn Timber for the Year Ended 31 March 1975

(a) *By Species*

(Volume in cubic metres)

Conservancy	Indigenous								Exotic				All Species			Sawmills Registered 3/75
	Rimu and Miro	Matai	Totara	Kahikatea	Kauri	Tawa	Beech	Minor Species	Exotic Pines	Douglas Fir	Eucalypts	Minor Species	Indigenous	Exotic	Total	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
Auckland	29 070	7 054	1 468	3 424	1 422	4 553	3	1 284	197 614	109	596	3 050	48 278	201 369	249 647	92
Rotorua	48 742	4 203	4 951	2 707	..	3 719	23	427	847 945	122 400	1 477	15 063	64 772	986 885	1 051 657	47
Wellington ..	36 999	5 620	1 656	3 920	..	1 026	76	95	216 713	5 268	52	6 980	49 392	229 013	278 405	81
Nelson	26 639	23	7	1 544	..	..	4 249	58	65 678	11 007	31	270	32 520	76 986	109 506	50
Westland	116 486	148	39	16 802	..	..	5 843	332	1 455	..	..	..	139 650	1 455	141 105	22
Canterbury ..	..	..	2	1	..	..	9	..	132 900	2 967	674	1 594	12	138 135	138 147	51
Southland.. ..	13 616	98	63	500	..	..	17 038	7	79 445	5 588	274	522	31 322	85 830	117 152	43
North Island—																
1974–75 ..	114 811	16 877	8 075	10 051	1 422	9 298	102	1 806	1 262 272	127 777	2 125	25 093	162 442	1 417 267	1 579 709	220
1973–74 ..	132 387	16 296	6 568	9 879	2 167	10 731	4 208	2 731	1 185 008	157 943	4 577	16 935	184 967	1 364 463	1 549 430	231
1972–73 ..	140 385	17 565	9 010	12 043	3 033	14 733	637	938	977 344	141 383	3 177	6 438	198 344	1 128 342	1 326 686	237
South Island—																
1974–75 ..	156 741	269	111	18 847	..	..	27 137	397	279 479	19 562	979	2 386	203 504	302 406	505 910	166
1973–74 ..	155 856	838	278	16 564	2	..	22 772	177	285 334	19 209	384	3 861	196 487	308 788	505 275	186
1972–73 ..	140 665	722	258	16 362	..	67	23 820	180	257 108	15 892	649	3 122	182 074	276 771	458 845	185
New Zealand—																
1974–75 ..	271 552	17 146	8 186	28 898	1 422	9 298	27 241	2 203	1 541 751	147 339	3 104	27 479	365 946	1 719 673	2 085 619	386
1973–74 ..	288 243	17 134	6 846	26 443	2 169	10 731	26 980	2 908	1 470 342	177 152	4 961	20 796	381 454	1 673 251	2 054 705	417
1972–73 ..	281 050	18 287	9 268	28 405	3 033	14 800	24 457	1 118	1 234 452	157 275	3 826	9 560	380 418	1 405 113	1 785 531	422

NOTE—(1) This table is based on statistics collected by the New Zealand Forest Service in connection with the annual registration of sawmills.
(2) Indigenous "Minor Species" (column 9) for 1974–75 include taraire, 366 cubic metres; tanekaha, 269 m³, hinau, 212 m³, rewarewa, 583 m³, puriri, 65 m³, other and unspecified, 708 m³.
(3) Exotic "Minor Species" (column 13) for 1974–75 include—larch, 16 416 m³; macrocarpa, 10 528 m³; poplar, 346 m³; redwood, 91 m³; other and unspecified, 98 m³.
(4) This table includes the production of sawn sleepers, 21 942 m³ as produced in 1974–75.

APPENDIX 16—continued

Production of Rough Sawn Timber for the Year Ended 31 March 1975—*continued*

(b) *By Land Ownership*

(Volume in cubic metres)

Conservancy	Indigenous					Exotic				Grand Total
	State Forest Land	Unoccupied Crown Land	Maori Land	Private Land and Crown Leasehold	Total	State Forest Land	Local Authority Land	Company and Private Land	Total	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Auckland	37 911	..	1 505	8 862	48 278	150 921	3 918	46 530	201 369	249 647
Rotorua	41 088	..	11 580	12 104	64 772	494 479	682	491 724	986 885	1 051 657
Wellington	24 353	..	3 019	22 020	49 392	113 874	11 758	103 381	229 013	278 405
Nelson	24 701	..	..	7 819	32 520	31 357	280	45 359	76 986	109 506
Westland	99 490	7 647	2 657	29 856	139 650	1 367	..	88	1 455	141 105
Canterbury	..	9	..	3	12	58 244	30 518	49 373	138 135	138 147
Southland	12 537	..	16 799	1 986	31 322	51 000	11 211	23 619	85 830	117 152
North Island—										
1974–75	103 352	..	16 104	42 986	162 442	759 274	16 358	641 635	1 417 267	1 579 709
1973–74	97 110	..	29 301	58 556	184 967	633 379	19 345	711 739	1 364 463	1 549 430
1972–73	102 766	..	36 929	58 649	198 344	518 492	16 157	593 693	1 128 342	1 326 686
South Island—										
1974–75	136 728	7 656	19 456	39 664	203 504	141 968	41 999	118 439	302 406	505 910
1973–74	134 704	11 996	17 293	32 494	196 487	151 773	63 144	93 871	308 788	505 275
1972–73	118 222	5 683	18 491	39 679	182 074	145 765	35 150	95 856	276 771	458 845
New Zealand—										
1974–75	240 080	7 656	35 560	82 650	365 946	901 242	58 357	760 074	1 719 673	2 085 619
1973–74	231 814	11 996	46 594	91 050	381 454	785 152	82 489	805 610	1 673 251	2 054 705
1972–73	220 988	5 683	55 420	98 327	380 418	664 257	51 306	689 550	1 405 113	1 785 531

APPENDIX 17

Production of Pulp and Paper

(Quantity in tonnes)

Year Ended 31 March	Wood Pulp			Fibreboard	Paper and Paperboard		
	Mechanical	Chemical*	Total		Newsprint	Other Paper and Paperboard	Total
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1965 ..	206 636	196 127	402 763	32 245	187 275	128 844	316 119
1966 ..	221 238	196 282	417 520	34 313	198 745	156 012	354 757
1967 ..	208 641	227 453	436 094	33 406	186 837	173 170	360 007
1968 ..	224 709	256 494	481 203	33 606	198 685	178 755	377 440
1969 ..	234 682	259 093	493 775	38 903	202 732	193 043	395 775
1970 ..	244 980	316 888	561 868	40 188	207 413	238 585	445 998
1971 ..	258 948	317 074	576 022	44 354	213 917	247 965	461 882
1972 ..	262 627	317 998	580 625	45 526	218 021	250 766	468 787
1973 ..	260 543	339 502	600 045	44 730	213 231	240 226	453 457
1974 ..	351 058	465 300	816 358	45 968	217 831	316 304	534 135
1975 ..	371 618	521 161	892 759	43 879	208 523	338 311	546 834

*Includes semi-chemical pulp.

APPENDIX 18

Estimated Production of Forest Products in Roundwood Equivalent and Actual Roundwood Removals for the Year Ended 31 March 1975

(Volume in thousand cubic metres)

Category	Indigenous Wood	Exotic Wood	Total
(1)	(2)	(3)	(4)
Logs for export	16.6	856.1	872.7
Chips for export	69.9	309.1	379.0
Sawn timber	731.5	3 743.3	4 474.8
Pulp and pulp products	141.3	3 503.8	3 645.1
Peelers, veneer, and plywood	33.6	48.7	82.3
Smallwood and miscellaneous	9.8	439.7	449.5
Total (roundwood equivalent)	1 002.7	8 900.7	9 903.4
Less waste used in pulp production—			
Sawmill residues	..	1 180.1	1 180.1
Waste paper	..	161.5	161.5
Sawmill residues used in export chip production	..	161.6	161.6
Total roundwood removed—			
1974–75	1 002.7	7 397.5	8 400.2
1973–74	917.2	7 659.9	8 577.1
1972–73	889.1	7 353.8	8 242.9
1971–72	948.6	7 016.9	7 965.5
1970–71	1 013.7	7 181.2	8 194.9

Note—(1) Smallwood and miscellaneous is estimated. Total derived from recorded production in State forests and estimated additional production in private forests using an area basis.
(2) Firewood is excluded.
(3) Waste paper does not include broke or trimmings from producers' own machines.

APPENDIX 19

External Trade in Forest Products

(a) *Imports of Timber*

Calendar Year	Sawn Timber							Total Sawn Timber	Sleepers	Logs and Poles
	Hardwoods			Softwoods						
	Australian	Oak	Other	Douglas Fir	Redwood	Cedar	Other			
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
					(Volume in cubic metres)					
1968 ..	9 729	226	6 935	4 823	3 752	10 921	2 242	38 628	269	14 583
1969 ..	9 904	170	10 798	4 202	7 131	11 412	1 843	45 460	64	13 224
1970 ..	10 362	241	15 739	6 334	4 283	11 700	772	49 429	5	14 328
1971 ..	10 008	42	10 034	3 672	1 944	7 610	866	34 179	..	12 544
1972 ..	10 672	201	7 033	2 445	4 526	6 256	1 867	33 000	..	12 459
1973 ..	6 374	120	12 817	4 260	14 351	8 229	2 414	48 565	..	9 146
1974 ..	8 190	1 341	33 638	4 590	13 537	13 015	2 387	76 698	..	26 925
					(Value in $(000))					
1968 ..	633	17	417	283	221	707	142	2,420	17	366
1969 ..	682	19	721	307	576	949	149	3,403	4	345
1970 ..	737	33	1,251	499	368	1,127	62	4,077	4	674
1971 ..	773	9	826	256	197	630	79	2,770	4	474
1972 ..	757	28	555	208	479	559	166	2,752	4	432
1973 ..	614	19	1,345	501	1,959	1,282	244	5,964	..	399
1974 ..	930	151	4,551	603	1,886	2,136	327	10,584	1	422

(b) *Exports of Timber*

Calendar Year	Indigenous			Exotic					Total Sawn Timber	Sleepers	Logs and Poles	Chips
	Beech	Other	Total	Radiata Pine		Douglas Fir	Other	Total				
				Sawn	Cases							
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
						(Volume in cubic metres)						b.d.u.*
1968	797	8 887	9 684	150 174	6 874	47 650	465	205 163	214 847	..	1 440 815	..
1969	1 055	8 887	9 942	175 564	5 718	58 727	1 295	241 304	251 246	33	1 671 597	..
1970	4 328	9 134	13 462	181 287	4 767	60 655	6 680	253 389	266 851	33	1 820 600	69 848
1971	2 473	5 873	8 346	216 683	2 872	63 283	12 764	295 602	303 948	16	1 821 194	85 466
1972	2 348	4 300	6 648	150 764	2 917	67 437	12 414	233 531	240 180	..	1 855 826	89 441
1973	2 624	3 967	6 591	171 768	1 385	61 900	13 938	248 991	255 582	..	1 784 018	96 267
1974	1 457	2 899	4 356	164 406	1 867	44 503	9 731	220 507	224 863	..	1 205 336	148 911
						(Value in $(000))						
1968	50	548	598	4,130	490	2,147	13	6,780	7,378	..	16,507	..
1969	67	520	587	5,283	139	2,797	80	8,299	8,886	2	22,550	..
1970	229	761	990	6,218	250	2,920	320	9,708	10,698	..	24,830	1,793
1971	135	547	682	7,896	194	3,066	494	11,650	12,332	7	28,548	2,179
1972	121	375	496	5,154	193	3,398	414	9,159	9,655	..	30,642	2,491
1973	180	396	576	7,426	88	4,119	582	12,215	12,791	..	35,773	3,477
1974	132	329	461	8,628	161	3,275	554	12,618	13,079	..	30,145	4,862

Source: Department of Statistics; prepared by New Zealand Forest Service.

Note—The basis for valuation is: imports, c.d.v.; exports, f.o.b.
*b.d.u.: bone dry unit; 1 b.d.u. = 1 090 kilograms of oven dry wood.

APPENDIX 19—continued

External Trade in Forest Products—*continued*

(c) *Imports of Pulp and Paper*

Calendar Year	Wood Pulp	Fibreboard	Paper and Paperboard		
			Newsprint	Other Paper and Paperboard	Total
(1)	(2)	(3)	(4)	(5)	(6)
		(Quantity in tonnes)			
1968	10 411	15 979*	688	24 517	25 205
1969	11 077	3 344*	787	18 756	19 543
1970	18 860	11 055*	494	28 160	28 654
1971	14 627	2 415*	493	19 751	20 244
1972	12 340	6 317*	447	38 678	39 125
1973	15 010	4 224*	7 634	36 422	44 056
1974	6 109	861 934*	5 891	49 559	55 450
		(Value in $(000))			
1968	987	8	109	7,834	7,943
1969	1,235	1	123	8,987	9,110
1970	3,260	3	80	10,150	10,230
1971	1,142	1	79	9,004	9,083
1972	1,637	10	74	11,320	11,394
1973	2,139	7	998	13,444	14,442
1974	1,310	224	1,562	27,131	28,693

(d) *Exports of Pulp and Paper*

Calendar Year	Wood Pulp	Fibreboard	Paper and Paperboard		
			Newsprint	Other Paper and Paperboard	Total
(1)	(2)	(3)	(4)	(5)	(6)
		(Quantity in tonnes)			
1968	94 032	1 097 464*	119 590	17 728	137 318
1969	79 883	1 913 431*	120 339	27 303	147 642
1970	97 579	1 436 467*	118 578	26 450	145 029
1971	100 454	2 109 549*	126 885	18 119	145 004
1972	118 756	2 315 329*	124 410	28 831	153 241
1973	203 670	1 663 610*	111 258	26 443	148 401
1974	274 386	544 816	120 276	51 711	171 987
		(Value in $(000))			
1968	6,864	431	16,093	2,490	19,014
1969	6,746	725	15,769	3,635	19,404
1970	9,127	653	15,276	4,521	19,797
1971	9,765	1,038	16,018	3,697	19,715
1972	11,478	1,158	15,728	5,095	20,760
1973	19,449	921	15,041	7,130	22,174
1974	37,777	336	18,322	13,781	32,103

*In square metres.

Source: Department of Statistics; prepared by the New Zealand Forest Service.

Note—(1) "Other Paper and Paperboard" excludes manufactures of paper and paperboard; values of "Other Paper and Paperboard" include items for which no quantities are given.
(2) Basis for valuation: imports, c.d.v.; exports, f.o.b.

BY AUTHORITY:
A. R. SHEARER, GOVERNMENT PRINTER, WELLINGTON, NEW ZEALAND—1976
80469A—76 G